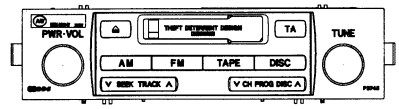
Pioneer sound.vision.soul

# Service Manual

TOYOTA



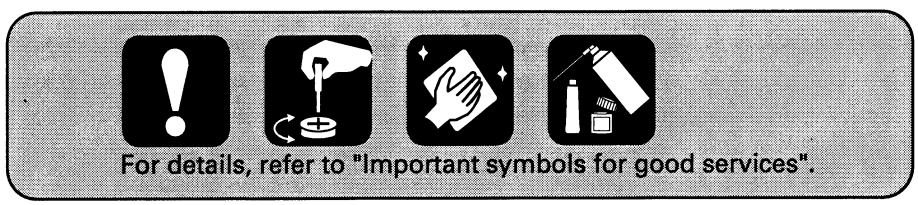
KEX-M8547ZT/EW

ORDER NO.
**CRT3321**

## RECEIVER ASSY, RADIO

# KEX-M8547ZT/EW
# KEX-M8547ZT-91/EW
# KEX-M8647ZT/EW
# KEX-M8647ZT-91/EW

| VEHICLE | DESTINATION | PRODUCED AFTER | OEM PARTS No. | ID No. | PIONEER MODEL No. |
|---|---|---|---|---|---|
| LAND CRUISER PRADO | EUROPE | August 2004 | 86120-60461 | P3745 | KEX-M8547ZT/EW |
| LAND CRUISER PRADO | EUROPE | August 2004 | 86120-60461 | P3745 | KEX-M8547ZT-91/EW |
| LAND CRUISER PRADO | EUROPE | August 2004 | 86120-60451 | P3746 | KEX-M8647ZT/EW |
| LAND CRUISER PRADO | EUROPE | August 2004 | 86120-60451 | P3746 | KEX-M8647ZT-91/EW |




**PIONEER CORPORATION** 4-1, Meguro 1-chome, Meguro-ku, Tokyo 153-8654, Japan
**PIONEER ELECTRONICS (USA) INC.** P.O. Box 1760, Long Beach, CA 90801-1760, U.S.A.
**PIONEER EUROPE NV** Haven 1087, Keetberglaan 1, 9120 Melsele, Belgium
**PIONEER ELECTRONICS ASIACENTRE PTE. LTD.** 253 Alexandra Road, #04-01, Singapore 159936


K-ZZA. JULY 2004

## This service manual should be used together with the following manual(s):

| Model No. | Order No. | Mech.Module | Remarks |
|---|---|---|---|
| CX-1011 | CRT2406 | 3L | Cassette Mech. Module : Mech. Description, Disassembly |

**Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.**
**"Dolby" and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.**

**This service manual does not describe the CD test mode.**
**For the operations in the CD test mode, refer to the CD player's service manual.**

● **Supplementary model is identical to the original except for the addition of following items.**

* : Non spare part

| Description | KEX-M8547ZT-91/EW<br>KEX-M8647ZT-91/EW |
|---|---|
| Polyethylene Bag | CEG1026 |
| Cover | CEG1045(x2) |
| Carton | CHG4857 |
| Contain Box | CHL4857(x1/4) |
| * Air Cap | CHW1947 |

# SAFETY INFORMATION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

## ● Service Precaution

1. You should conform to the regulations governing the product (safety, radio and noise, and other regulations), and should keep the safety during servicing by following the safety instructions described in this manual.
2. When you exchange the CN473 (mentioned P.6 PART No.11) for new part. Cut all terminals about 0.5mm to 1mm. ( There is some possibility to touch the terminal with under chassis because of long terminals.)

**[ Important symbols for good services ]**
In this manual, the symbols shown-below indicate that adjustments, settings or cleaning should be made securely.
When you find the procedures bearing any of the symbols, be sure to fulfill them:

1. Product safety

You should conform to the regulations governing the product (safety, radio and noise, and other regulations), and should keep the safety during servicing by following the safety instructions described in this manual.

2. Adjustments

To keep the original performances of the product, optimum adjustments or specification confirmation is indispensable. In accordance with the procedures or instructions described in this manual, adjustments should be performed.

3. Cleaning

For optical pickups, tape-deck heads, lenses and mirrors used in projection monitors, and other parts requiring cleaning, proper cleaning should be performed to restore their performances.

4. Shipping mode and shipping screws

To protect the product from damages or failures that may be caused during transit, the shipping mode should be set or the shipping screws should be installed before shipping out in accordance with this manual, if necessary.

5. Lubricants, glues, and replacement parts

Appropriately applying grease or glue can maintain the product performances. But improper lubrication or applying glue may lead to failures or troubles in the product. By following the instructions in this manual, be sure to apply the prescribed grease or glue to proper portions by the appropriate amount.For replacement parts or tools, the prescribed ones should be used.

# CONTENTS

# 1. SPECIFICATIONS

General

Power source . . . . . 13.2V(10.5V - 16.0V allowable)
Backup current. . . . . Less than 0.3 mA
Grounding system . . . . . Negative type
Weight . . . . . 1.18 kg

Tape player

Tape . . . . . Compact cassette tape (C-30 - C-90)
Tape speed . . 4.76 cm/sec.(+0.14 cm/sec.,-0.05 cm/sec.)
Wow & flutter. . . . . Less than 0.2 %(WRMS)
Fast forward/rewind time. . . . Less than 120 sec. for C-60
Stereo separation . . . . . More than 30 dB
Signal-to-noise ratio . . . . . More than 40 dB

FM tuner

Frequency range. . . . . 87.5 - 108.0 MHz
Usable sensitivity . . . . . Less than14 dBµV (S/N: 30 dB)
Signal-to-noise ratio . . . . .More than 46 dB(54dBµ input)
Distortion . . . . . Less than 1.5%
Digital noise . . . . . Less than 25 mVp-p (74 dBµ input)

MW tuner

Frequency range. . . . . 522 - 1,611 kHz
Usable sensitivity . . . . Less than 34 dBµV(S / N : 20 dB)
Selectivity . . . . . More than 20 dB (±9 kHz)
Signal-to-noise ratio . . . . More than 42 dB (74 dBµ input)
Distortion . . . . . Less than 1.5%

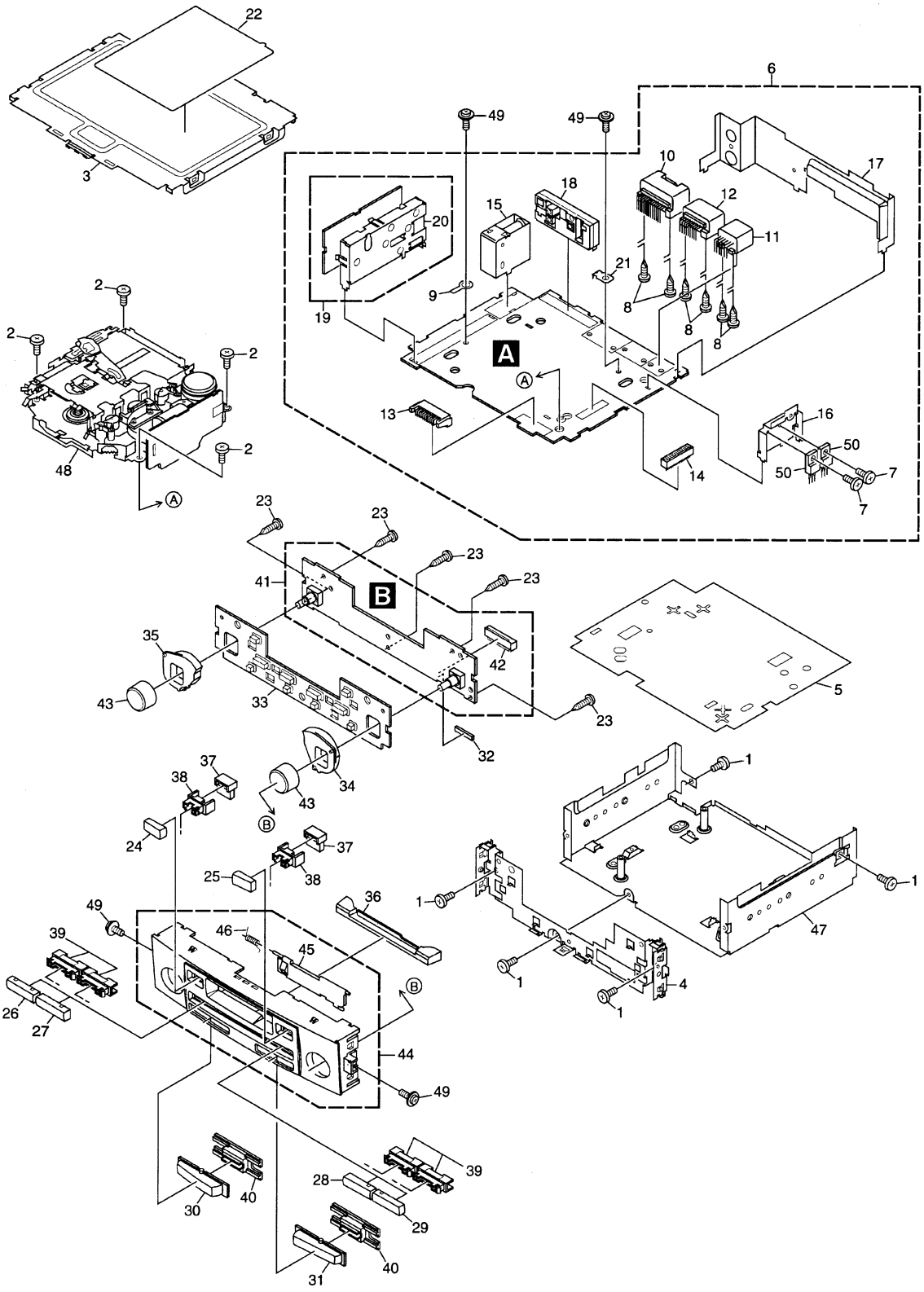
LW tuner

Frequency range. . . . . 153 - 279 kHz
Usable sensitivity . . . . Less than 40 dBµV(S / N : 20 dB)
Selectivity . . . . . More than 20 dB (±9 kHz)
Signal-to-noise ratio . . . . More than 42 dB (74 dBµ input)
Distortion . . . . . Less than 1.5%

# 2. EXPLODED VIEWS AND PARTS LIST

*NOTES :* • *Parts marked by " * " are generally unavailable because they are not in our Master Spare Parts List.*
• *Screw adjacent to ▽ mark on the product are used for disassembly.*
• *For the applying amount of lobricants or glue, follow the instructions in this manual.*
*(In the case of no amount instructions,apply as you think it appropriate.)*

## 2.1 EXTERIOR



## (1) EXTERIOR SECTION PARTS LIST

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | 1 | Screw | BMZ30P050FTC |
| | 2 | Screw | BSZ26P060FTC |
| | 3 | Upper Case | CNB3080 |
| | 4 | Front Frame | CNC9684 |
| | 5 | Insulator | CNM7528 |
| | 6 | Main Unit | See Contrast table(2) |
| | 7 | Screw | BMZ30P060FTC |
| | 8 | Screw(M3x6) | CBA1393 |
| | 9 | Terminal(CN502) | CKF1064 |
| | 10 | Connector(CN801) | CKM1322 |
| | 11 | Connector(CN473) *1 | CKM1350 |
| | 12 | Connector(CN472) | CKM1351 |
| | 13 | Plug(CN804) | CKS3539 |
| | 14 | Connector(CN353) | CKS3568 |
| | 15 | Antenna Jack(CN501) | CKX1024 |
| | 16 | Holder | CNC9686 |
| | 17 | Rear Frame | CND2155 |
| | 18 | FM Tuner Unit | CWE1679 |
| | 19 | FM/AM Tuner Unit | CWE1773 |
| | 20 | Holder | CNC8855 |
| | 21 | Terminal(CN802) | VNF1084 |
| | 22 | Shield Unit | CXB9781 |
| | 23 | Screw | BPZ20P080FTC |
| | 24 | Button | See Contrast table(2) |
| | 25 | Button | See Contrast table(2) |
| | 26 | Button | See Contrast table(2) |
| | 27 | Button | See Contrast table(2) |
| | 28 | Button | See Contrast table(2) |
| | 29 | Button | See Contrast table(2) |
| | 30 | Button | See Contrast table(2) |
| | 31 | Button | See Contrast table(2) |
| | 32 | Cushion | CNM9194 |
| | 33 | Rubber | CNV6939 |
| | 34 | Lighting Conductor | CNV6942 |
| | 35 | Lighting Conductor | CNV6943 |
| | 36 | Lighting Conductor | CNV6944 |
| | 37 | Lighting Conductor | CNV6948 |
| | 38 | Holder | CNV6951 |
| | 39 | Holder | CNV6952 |
| | 40 | Holder | CNV6953 |
| | 41 | Keyboard Unit | See Contrast table(2) |
| | 42 | Socket(CN901) | CKS3552 |
| | 43 | Knob Unit(TUNE)(PWR, VOL) | CXB7979 |
| | 44 | Grille Unit | See Contrast table(2) |
| | 45 | Door | CAT2293 |
| | 46 | Spring | CBH1371 |
| | 47 | Chassis Unit | CXC3861 |
| | 48 | Cassette Mechanism Module | EXK4290 |
| | 49 | Screw | ISS26P055FTC |
| | 50 | Transistor(Q810, 811) | 2SB1185 |

## (2) CONTRAST TABLE

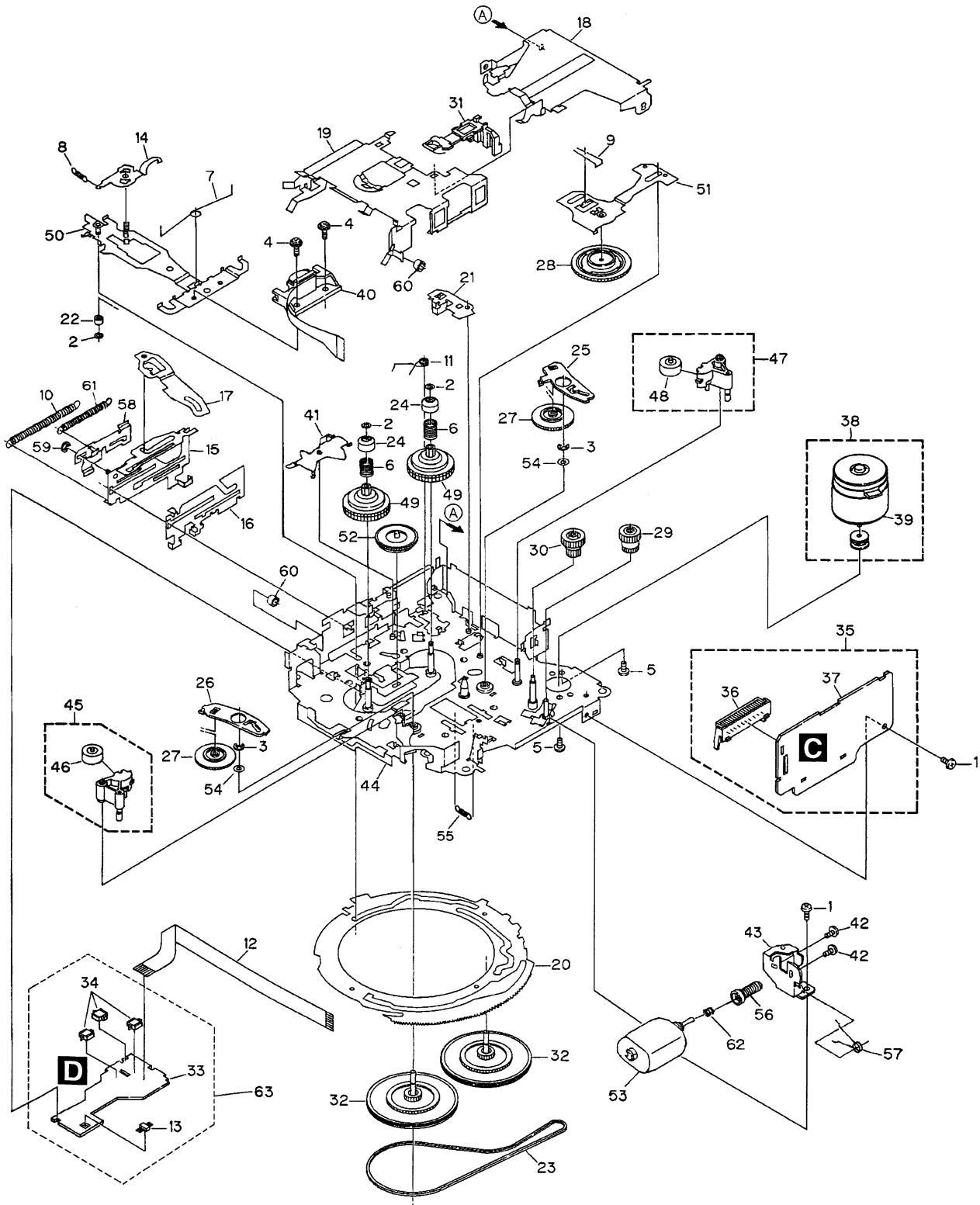
KEX-M8547ZT/EW and KEX-M8647ZT/EW are constructed the same except for the following:

| Mark | No. | Description | KEX-M8547ZT/EW | KEX-M8647ZT/EW |
|---|---|---|---|---|
| | 6 | Main Unit | CWM9554 | CWM9555 |
| | 24 | Button | CAC7276(TA) | CAC7277(CS-EJECT) |
| | 25 | Button | CAC7278(CS-EJECT) | CAC7279(TA) |
| | 26 | Button | CAC7280(DISC) | CAC7268(AM) |
| | 27 | Button | CAC7281(TAPE) | CAC7269(FM) |
| | 28 | Button | CAC7282(FM) | CAC7270(TAPE) |
| | 29 | Button | CAC7283(AM) | CAC7271(DISC) |
| | 30 | Button | CAC7284(CH, PROG, DISC) | CAC7272(SEEK, TRACK) |
| | 31 | Button | CAC7285(SEEK, TRACK) | CAC7273(CH, PROG, DISC) |
| | 41 | Keyboard Unit | CWS1338 | CWS1339 |
| | 44 | Grille Unit | CXC3340 | CXC3341 |

*1 : The cautions in the case of exchanging parts (mentioned P.7 PART No.11) are indicated to P.3.

## 2.2 CASSETTE MECHANISM MODULE

For grease application, refer to the service manual for CX-1011 (CRT2406).

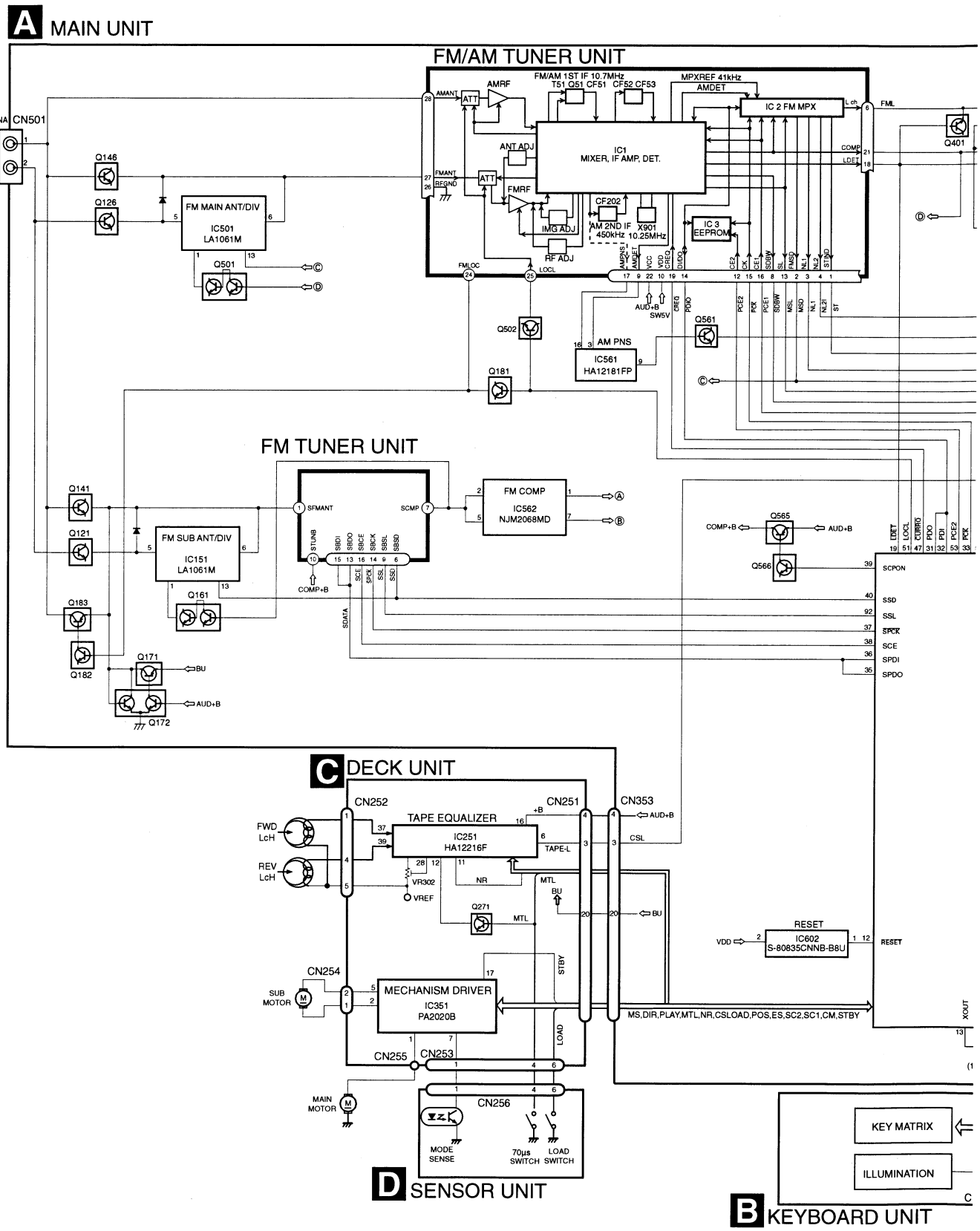


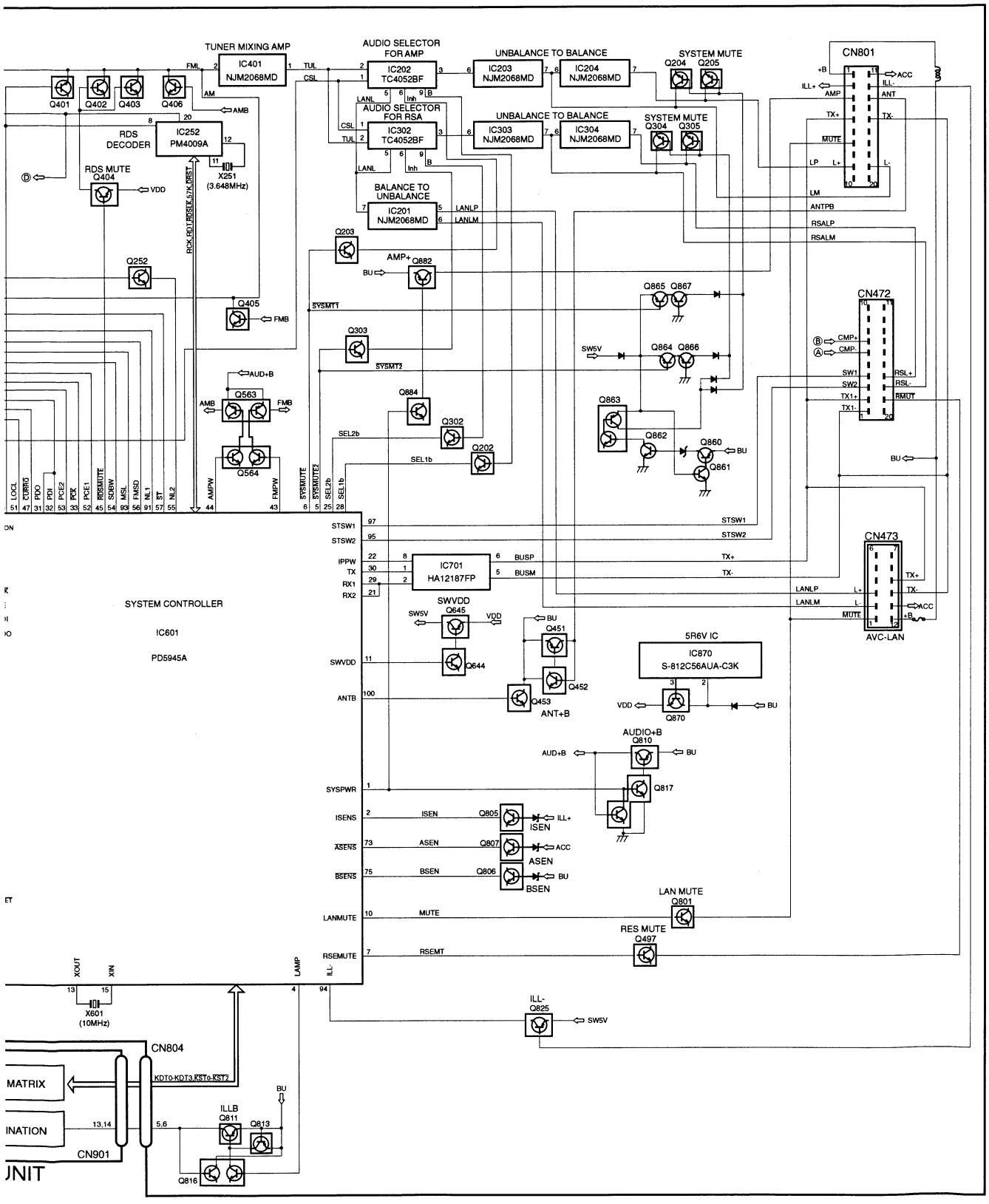
## CASSETTE MECHANISM MODULE SECTION PARTS LIST

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | 1 | Screw | BSZ20P040FTC |
| | 2 | Washer | CBF1037 |
| | 3 | Washer | CBG1003 |
| | 4 | Screw | EBA1028 |
| | 5 | Screw | BMZ20P022FTC |
| | 6 | Spring | EBH1653 |
| | 7 | Spring | EBH1642 |
| | 8 | Spring | EBH1641 |
| | 9 | Spring | EBH1626 |
| | 10 | Spring | EBH1627 |
| | 11 | Spring | EBH1648 |
| | 12 | Cord | EDD1024 |
| | 13 | Photo-reflector(Q101) | EGN1004 |
| | 14 | Arm | ENC1526 |
| | 15 | Lever Unit | EXA1610 |
| | 16 | Lever | ENC1543 |
| | 17 | Arm | ENC1532 |
| | 18 | Frame | ENC1533 |
| | 19 | Holder | ENC1547 |
| | 20 | Gear | ENC1535 |
| | 21 | Arm | ENC1550 |
| | 22 | Roller | ENR1040 |
| | 23 | Belt | ENT1027 |
| | 24 | Collar | ENV1508 |
| | 25 | Arm | ENV1539 |
| | 26 | Arm | ENV1540 |
| | 27 | Gear | ENV1569 |
| | 28 | Gear | ENV1547 |
| | 29 | Gear | ENR1044 |
| | 30 | Worm Wheel | ENV1559 |
| | 31 | Lever | ENV1551 |
| | 32 | Flywheel | ENV1607 |
| | 33 | Gathering PCB | ENX1073 |
| | 34 | Switch(S101,S102,S103) | ESG1007 |
| | 35 | Deck Unit | EWM1031 |
| | 36 | Plug(CN251) | CKS3540 |
| | 37 | Gathering PCB | ENX1066 |
| | 38 | Motor Unit(M1) | EXA1618 |
| | 39 | Motor | EXM1035 |
| | 40 | Head Assy(HD1) | EXA1594 |
| | 41 | Arm | ENC1537 |
| | 42 | Screw | EBA1031 |
| | 43 | Bracket | ENC1559 |
| | 44 | Chassis Unit | EXA1636 |
| | 45 | Pinch Holder Unit | EXA1608 |
| | 46 | Pinch Roller | ENV1518 |
| | 47 | Pinch Holder Unit | EXA1607 |
| | 48 | Pinch Roller | ENV1518 |
| | 49 | Reel Unit | EXA1625 |
| | 50 | Head Base Unit | EXA1611 |
| | 51 | Lever Unit | EXA1587 |
| | 52 | Gear Unit | EXA1596 |
| | 53 | Motor Unit(M2) | EXA1660 |
| | 54 | Washer | HBF-179 |
| | 55 | Spring | EBH1537 |
| | 56 | Worm Gear | ENV1564 |
| | 57 | Spring | EBH1672 |
| | 58 | Lever | ENC1548 |
| | 59 | Washer | YE15FTC |
| | 60 | Tube | ENM1039 |
| | 61 | Spring | EBH1645 |
| | 62 | Spring | EBH1545 |
| | 63 | Sensor Unit | EWM1041 |

# 3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

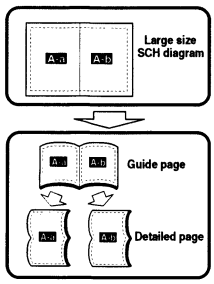
## 3.1 BLOCK DIAGRAM

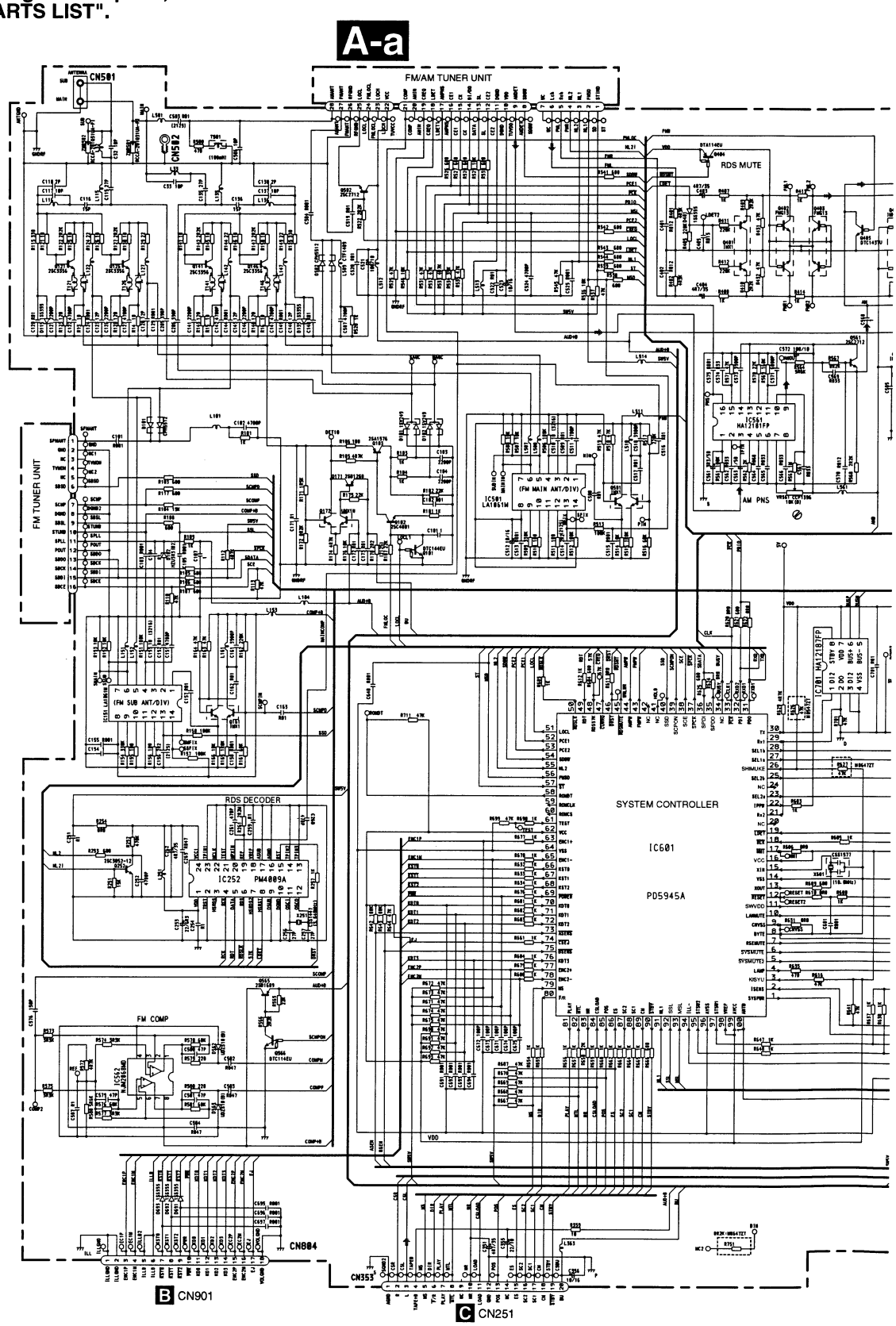



TUNER MIXING AMP
IC401 NJM2068MD
AUDIO SELECTOR FOR AMP
IC202 TC4052BF
UNBALANCE TO BALANCE
IC203 NJM2068MD
IC204 NJM2068MD
SYSTEM MUTE
Q204 Q205
CN801
AUDIO SELECTOR FOR RSA
IC302 TC4052BF
IC303 NJM2068MD
IC304 NJM2068MD
SYSTEM MUTE
Q304 Q305
RDS DECODER
IC252 PM4009A
X251 (3.648MHz)
RDS MUTE Q404
BALANCE TO UNBALANCE
IC201 NJM2068MD
Q401 Q402 Q403 Q406
Q203
AMP+ Q882
Q252
Q405
Q303
Q865 Q867
Q864 Q866
Q863
Q862
Q860
Q861
Q884
Q302
Q202
Q563
Q564
CN472
CN473
AVC-LAN
SYSTEM CONTROLLER
IC601
PD5945A
IC701 HA12187FP
SWVDD
Q645
Q644
Q451
Q452
Q453
ANT+B
5R6V IC
IC870 S-812C56AUA-C3K
Q870
AUDIO+B Q810
Q817
ISEN Q805
ASEN Q807
BSEN Q806
LAN MUTE Q801
RES MUTE Q497
ILL- Q825
X601 (10MHz)
CN804
CN901
MATRIX
INATION
UNIT
ILLB Q811
Q813
Q816

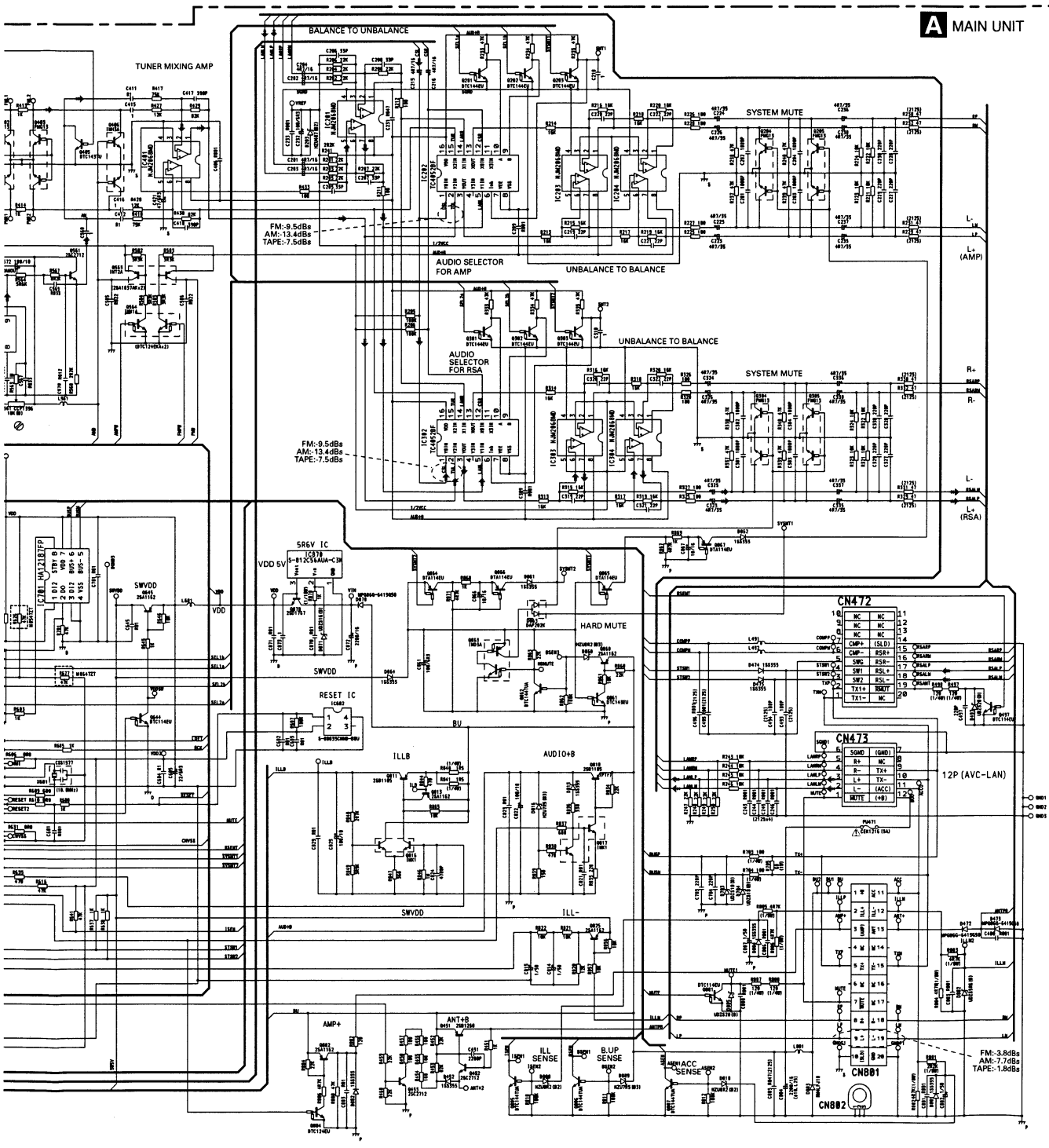
# 3.2 OVERALL CONNECTION DIAGRAM(GUIDE PAGE)

**Note: When ordering service parts, be sure to refer to " EXPLODED VIEWS AND PARTS LIST" or "ELECTRICAL PARTS LIST".**



# A-b

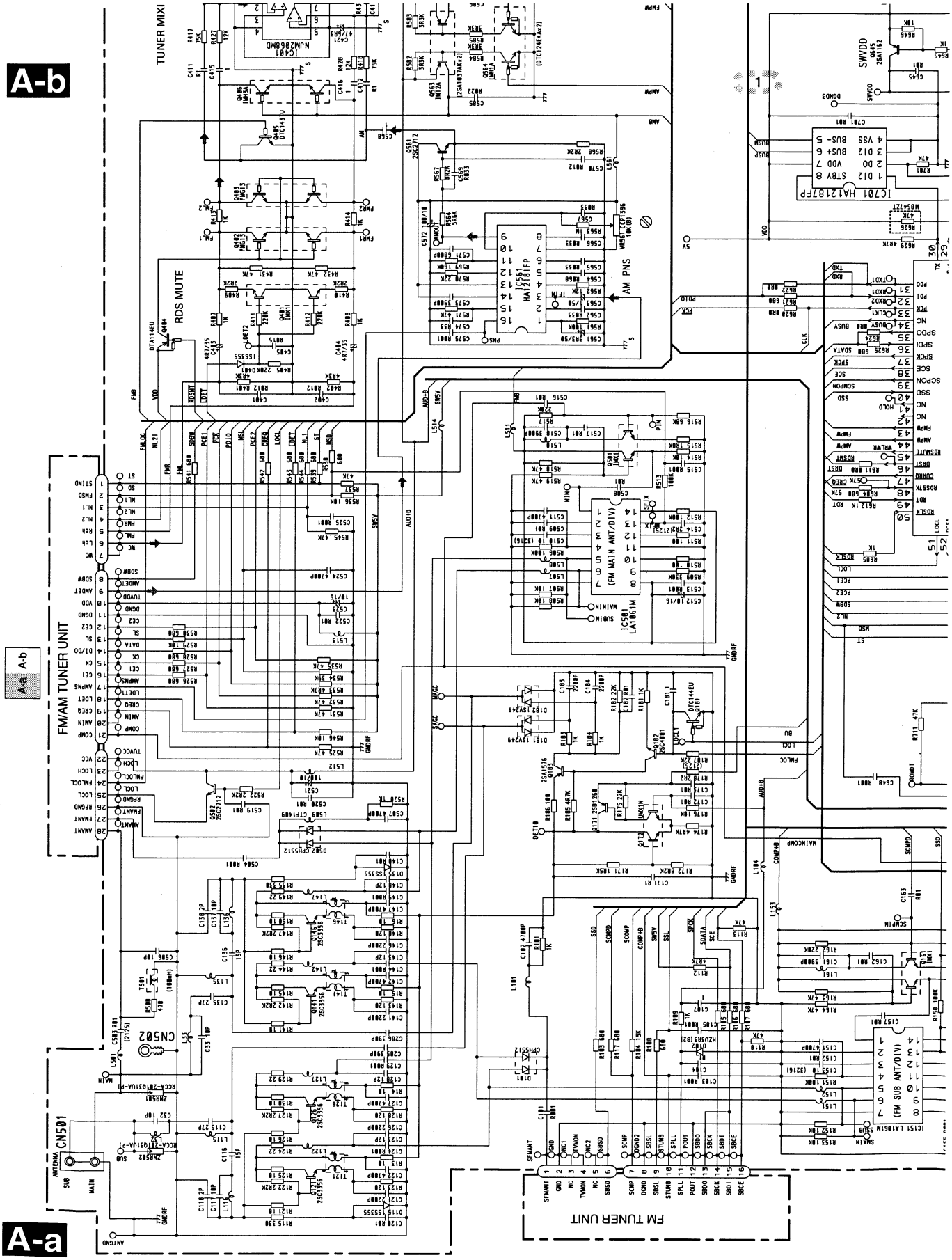


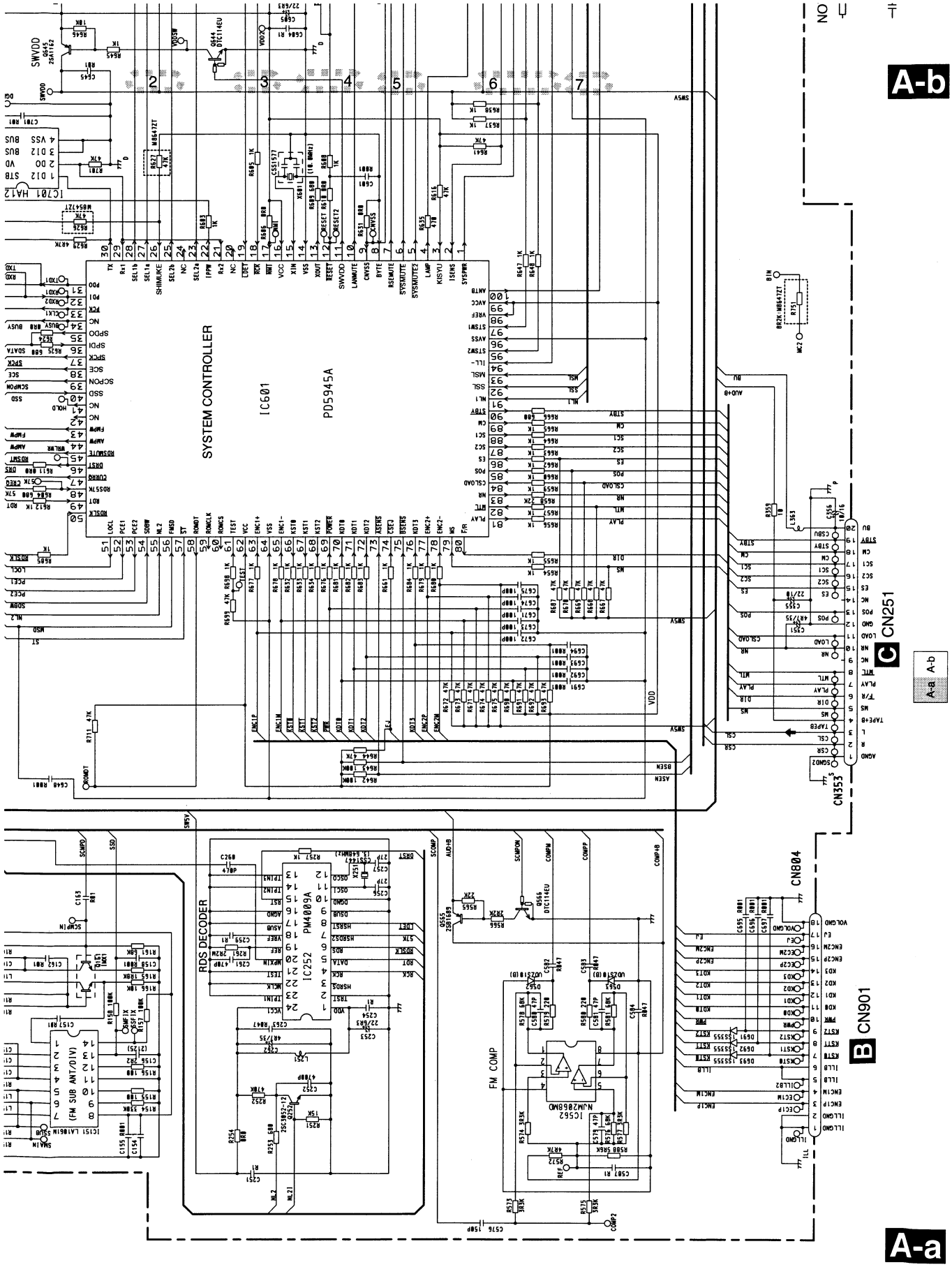

NOTE :

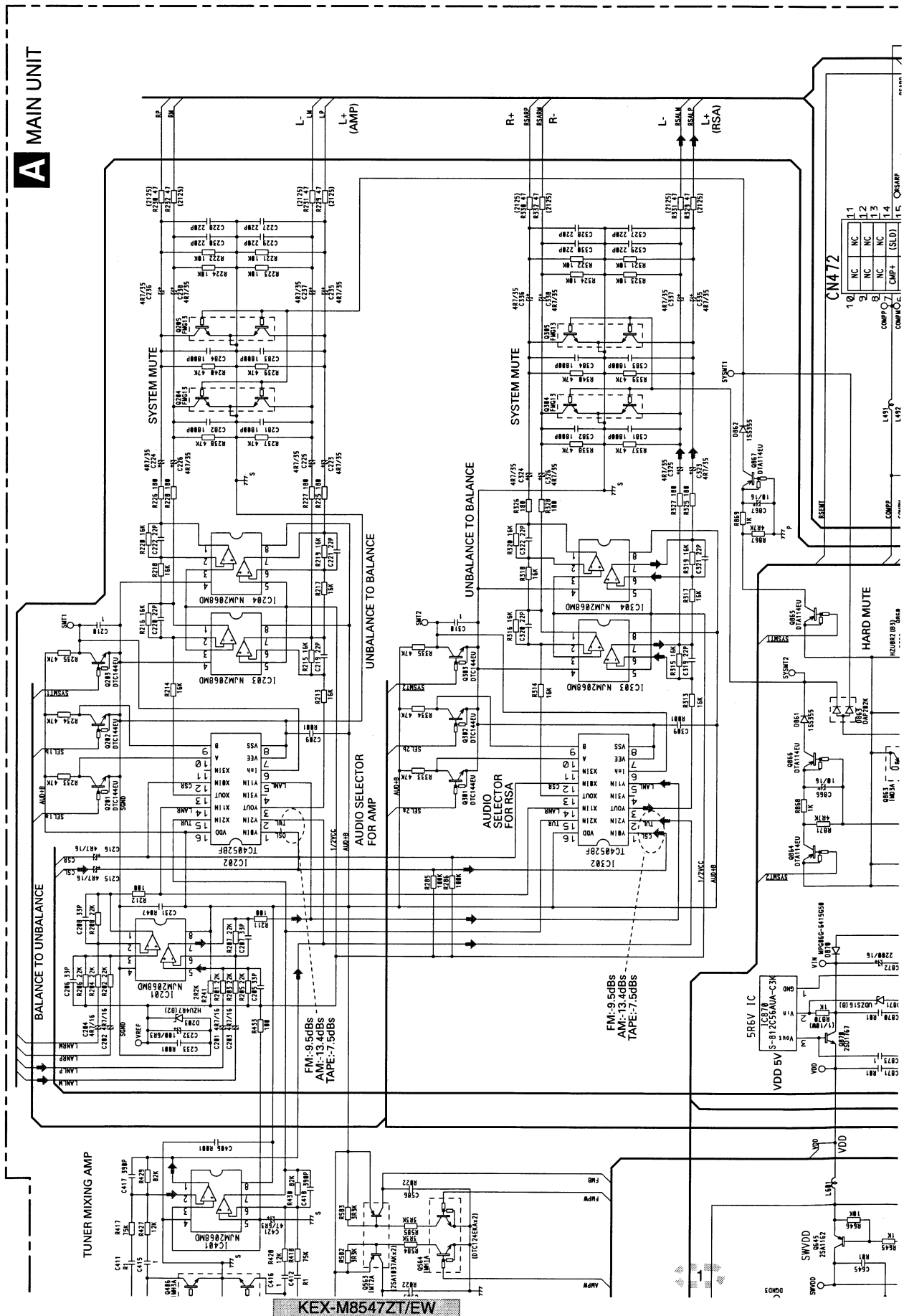
- Symbol indicates a resistor. No differentiation is made between chip resistors and discrete resistors.
- Symbol indicates a capacitor. No differentiation is made between chip capacitors and discrete capacitors.

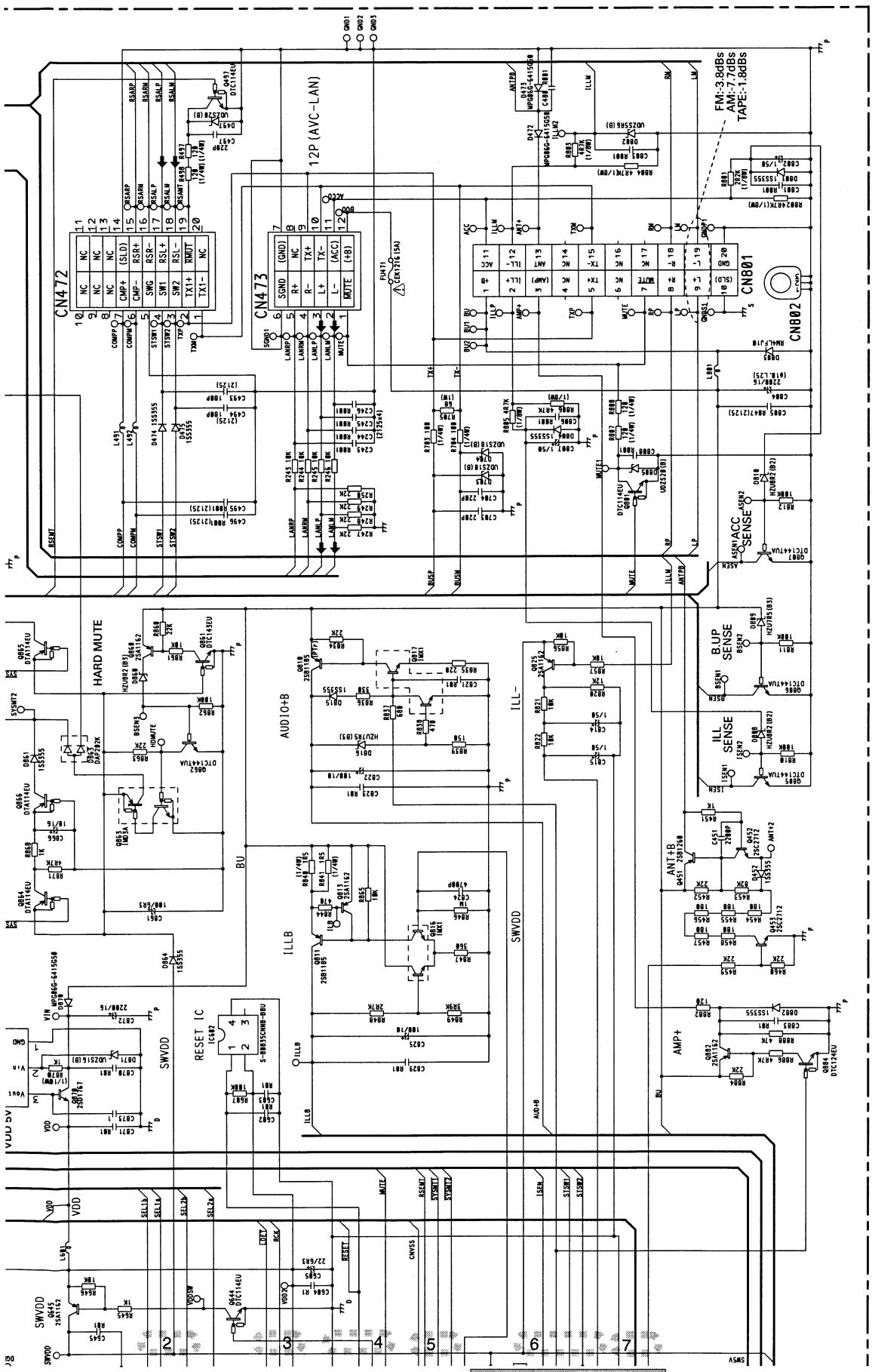
Decimal points for resistor and capacitor fixed values are expressed as :
2.2→2R2
0.022→R022

The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.


A-b
A-a
TUNER MIXI
RDS MUTE
AM PNS
FM/AM TUNER UNIT
FM TUNER UNIT
CN502
CN501
ANTENNA
SUB
MAIN
SWVDD
IC701 HA12187FP
IC551 HA12181FP
IC581 LA1861M
IC151 LA1861M
(FM MAIN ANT/DIV)
(FM SUB ANT/DIV)
(AM)
(FM)


SYSTEM CONTROLLER
IC601
PD5945A
RDS DECODER
IC252
PM4009A
FM COMP
IC562
UPW2868MD
CN804
CN901
CN251
CN353
A-b
A-a
KEX-M8547ZT/EW


A MAIN UNIT
SYSTEM MUTE
SYSTEM MUTE
UNBALANCE TO BALANCE
UNBALANCE TO BALANCE
BALANCE TO UNBALANCE
AUDIO SELECTOR FOR AMP
AUDIO SELECTOR FOR RSA
HARD MUTE
TUNER MIXING AMP
5REV IC
VDD 5V
FM:-9.5dBs
AM:-13.4dBs
TAPE:-7.5dBs
FM:-9.5dBs
AM:-13.4dBs
TAPE:-7.5dBs
L- (AMP)
L+ (AMP)
R+
R-
L-
L+ (RSA)
CN472
IC204 NJM2068MD
IC203 NJM2068MD
IC202
IC201 NJM2068MD
IC401 NJM2068MD
IC303 NJM2068MD
IC304 NJM2068MD
IC302
TC4052BF
IC870 S-812C56AUA-C3K
A-a
A-b
A-b




NOTE :

- ⊏▭ Symbol indicates a resistor. No differentiation is made between chip resistors and discrete resistors.
- ⊣⊢ Symbol indicates a capacitor. No differentiation is made between chip capacitors and discrete capacitors.

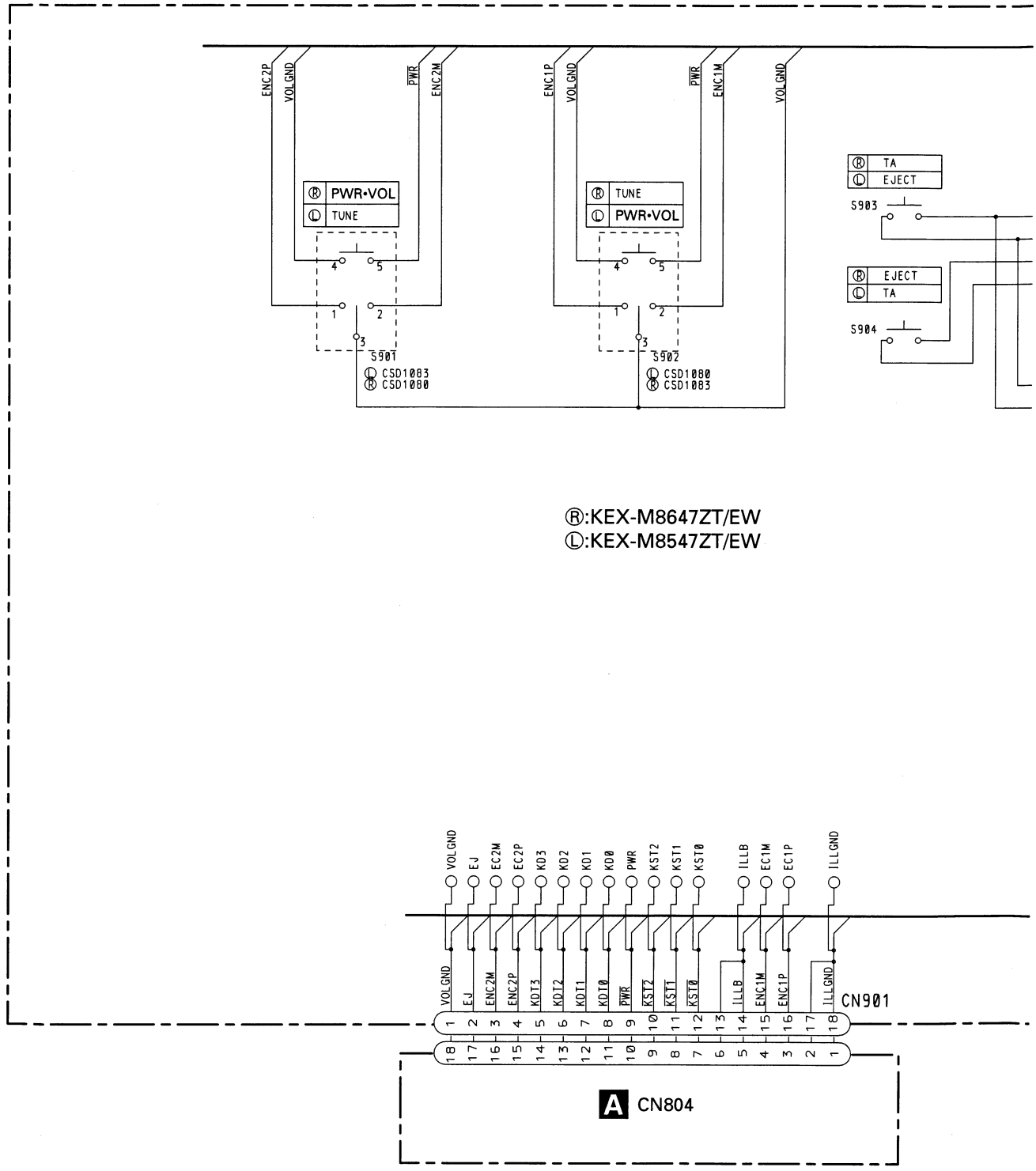
Decimal points for resistor and capacitor fixed values are expressed as :
2.2 → 2R2
0.022 → R022

The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

A-a A-b

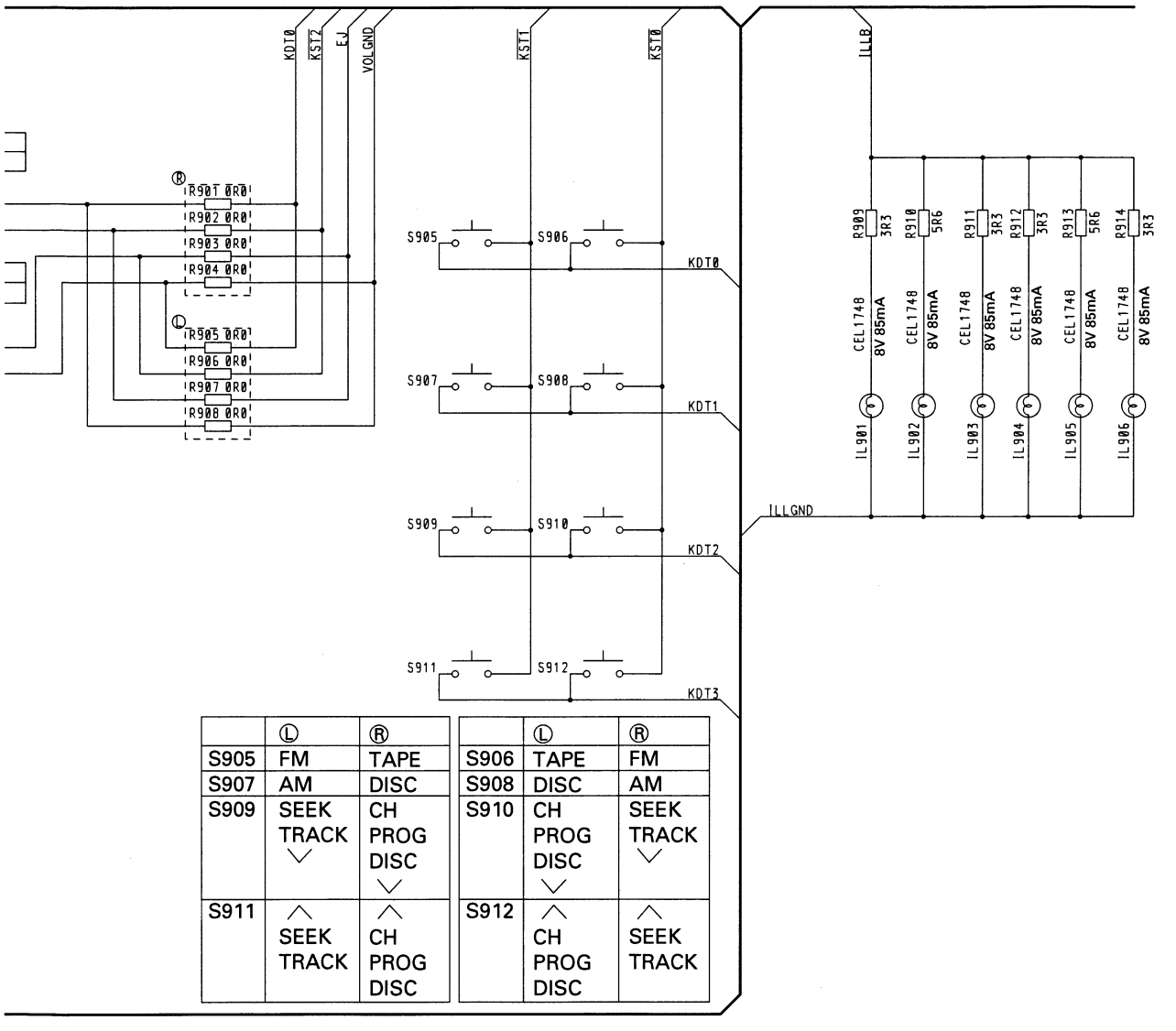
**A-b**

## 3.3 KEYBOARD UNIT




B

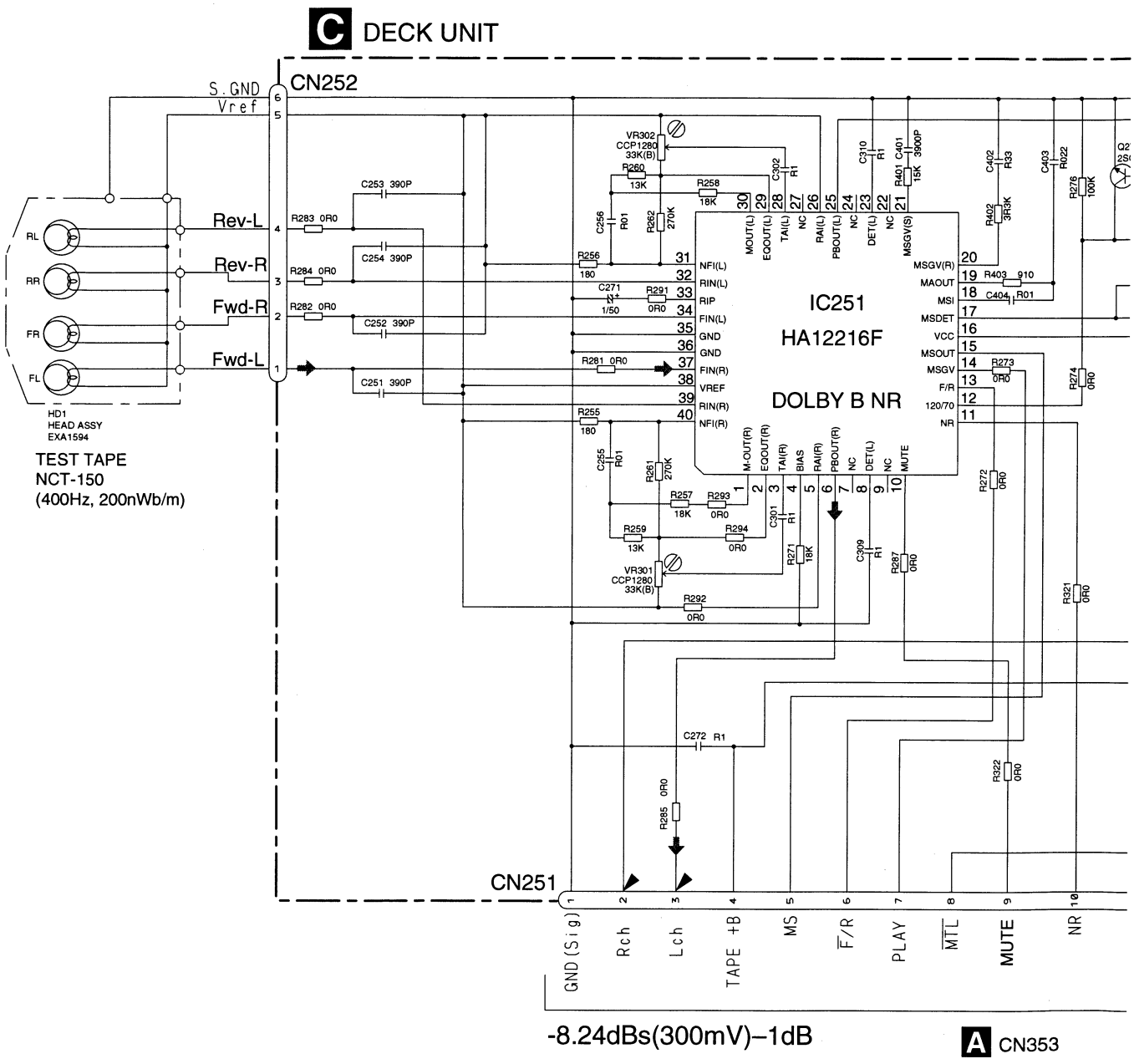
## B KEYBOARD UNIT

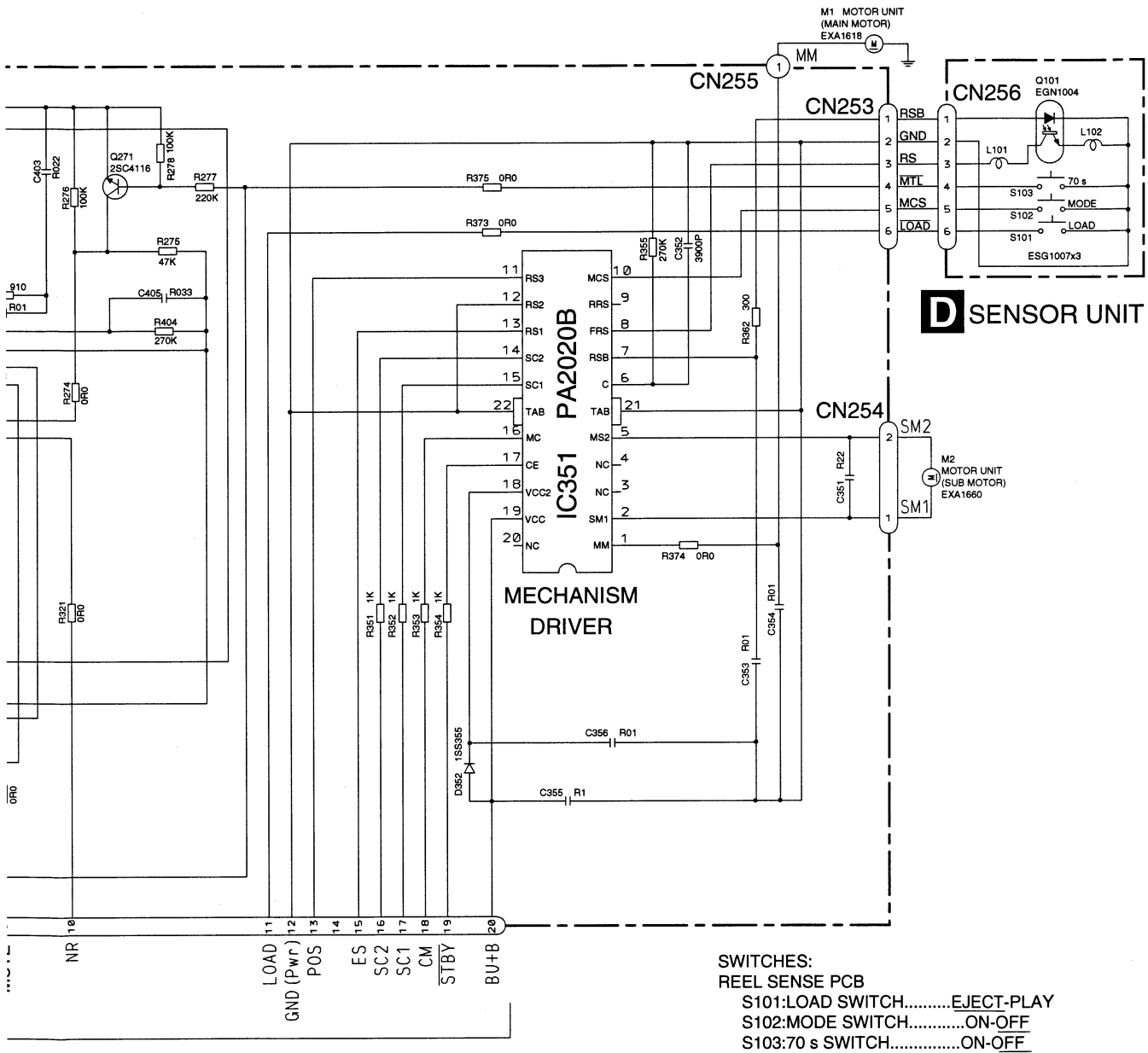



| | Ⓛ | Ⓡ |
|---|---|---|
| S905 | FM | TAPE |
| S907 | AM | DISC |
| S909 | SEEK TRACK ∨ | CH PROG DISC ∨ |
| S911 | ∧ SEEK TRACK | ∧ CH PROG DISC |

| | Ⓛ | Ⓡ |
|---|---|---|
| S906 | TAPE | FM |
| S908 | DISC | AM |
| S910 | CH PROG DISC ∨ | SEEK TRACK ∨ |
| S912 | ∧ CH PROG DISC | ∧ SEEK TRACK |

# 3.4 CASSETTE MECHANISM MODULE






:N353

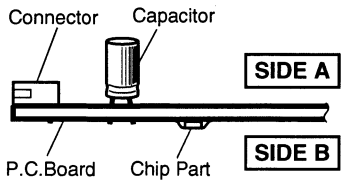
SWITCHES:
REEL SENSE PCB
S101:LOAD SWITCH.....EJECT-PLAY
S102:MODE SWITCH.....ON-OFF
S103:70 s SWITCH.....ON-OFF
The underlined indicates the switch position.

C D

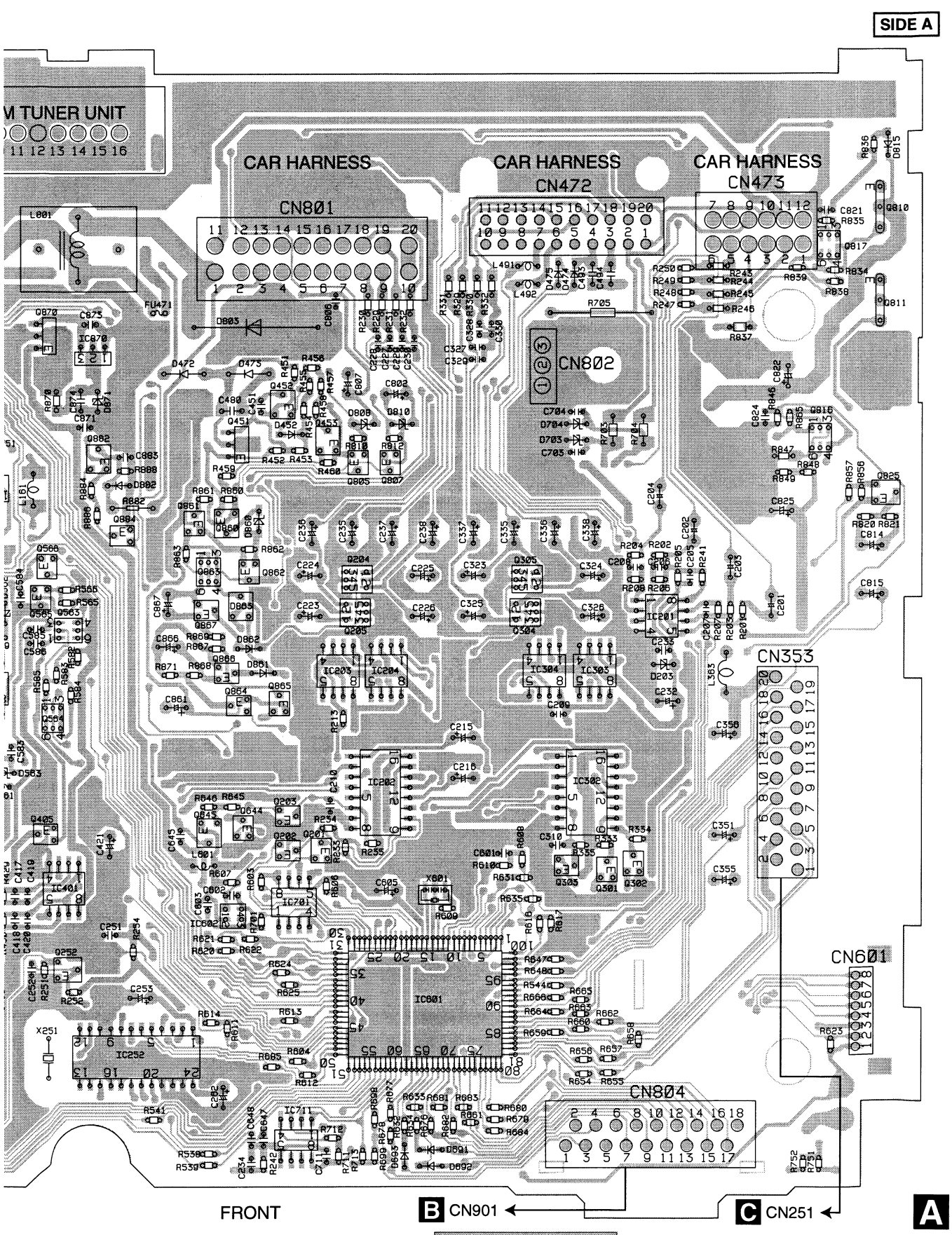
# 4. PCB CONNECTION DIAGRAM
## 4.1 MAIN UNIT

**NOTE FOR PCB DIAGRAMS**

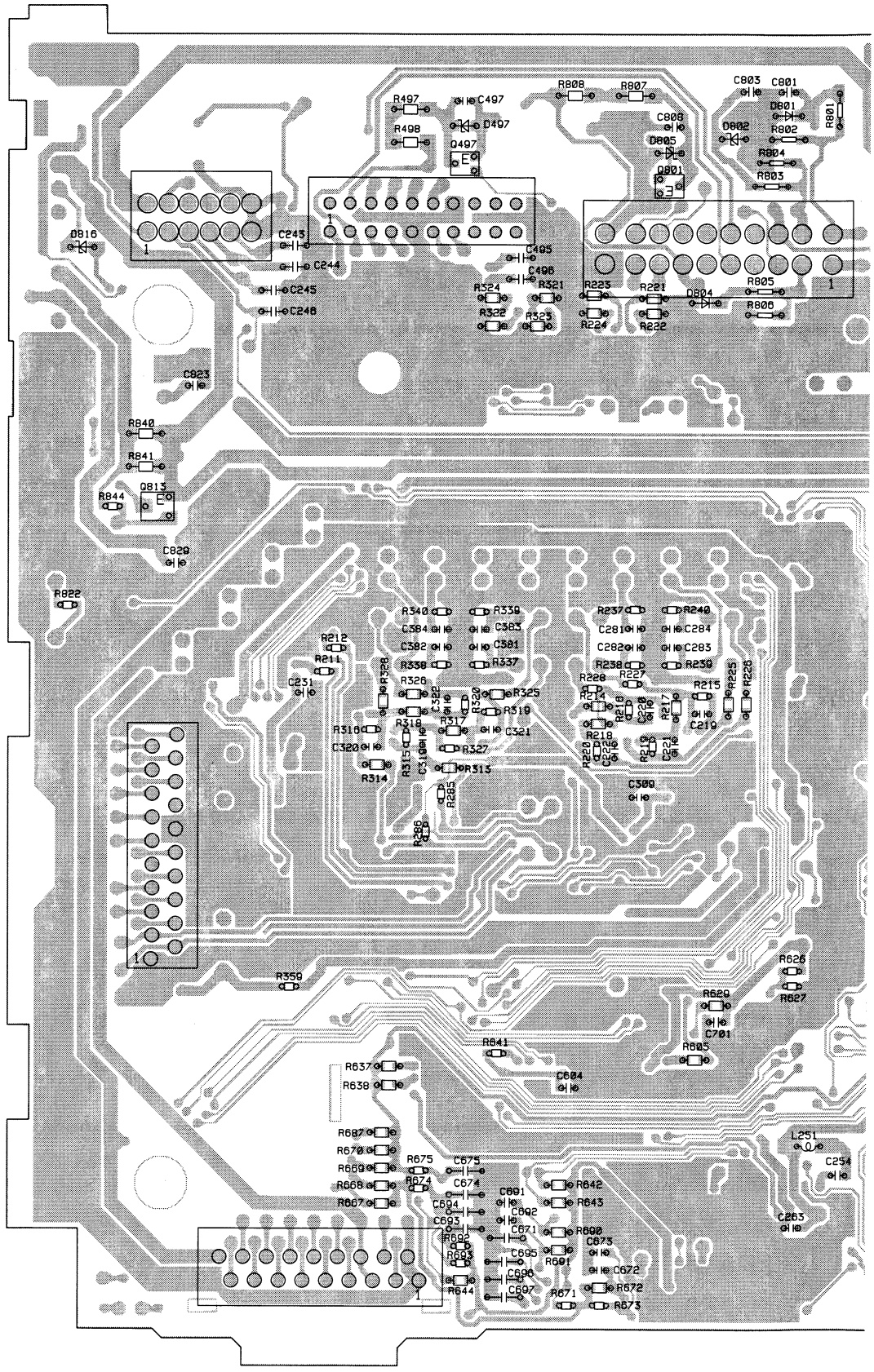
1. The parts mounted on this PCB include all necessary parts for several destination.
   For further information for respective destinations, be sure to check with the schematic diagram.
2. Viewpoint of PCB diagrams



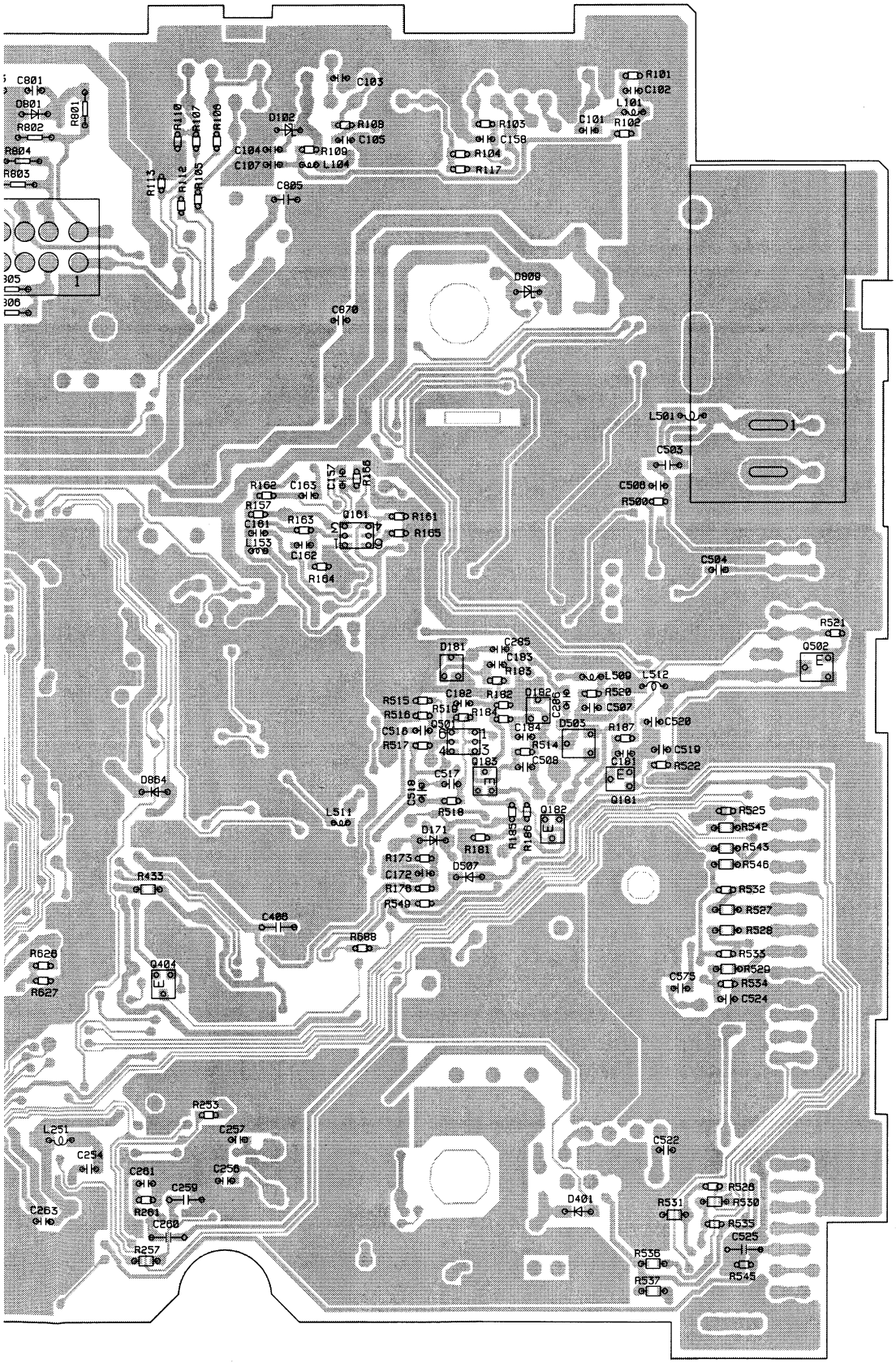

**A** MAIN UNIT


SIDE A
M TUNER UNIT
CAR HARNESS
CN801
CAR HARNESS
CN472
CAR HARNESS
CN473
CN802
CN353
CN601
CN804
FRONT
B CN901
C CN251
A
KEX-M8547ZT/EW

A MAIN UNIT


R497
C497
R498
D497
Q497
R808
R807
C803
C801
D801
D802
R802
R801
C808
D805
R804
Q801
R803
D816
C243
C244
C245
C246
C495
C496
R524
R321
R322
R323
R223
R221
D804
R805
R806
R224
R222
C823
R840
R841
Q813
R844
C820
R822
R340
R339
C384
C385
C382
C381
R338
R337
R212
R211
C231
R328
R326
R322
R320
R325
R319
R318
R317
C321
R316
C320
R327
R315
R314
C316
R313
R285
R286
C309
R237
R240
C281
C284
C282
C283
R238
R239
R227
R228
R214
R216
R217
R215
R225
R226
C219
R218
R220
C216
R219
C221
R359
R626
R629
R627
C701
R641
R605
R637
R638
C604
R687
R670
R669
R668
R667
R675
R674
C675
C674
C694
C693
R692
R693
R644
C691
C692
C671
C695
C696
C697
R642
R643
R690
C673
R691
C672
R671
R672
R673
L251
C254
C263

SIDE B

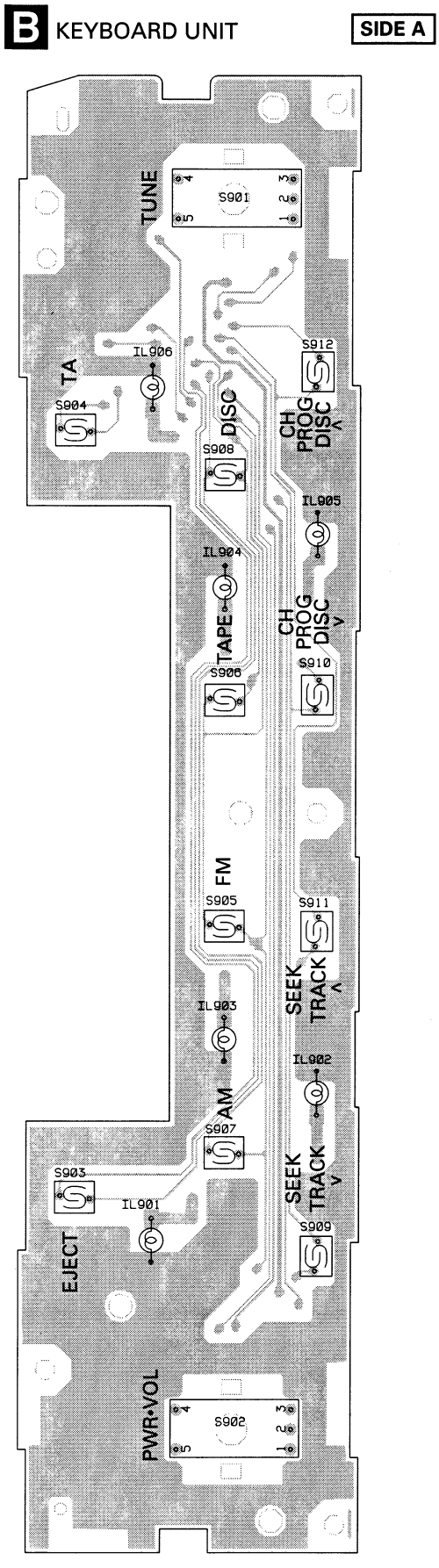


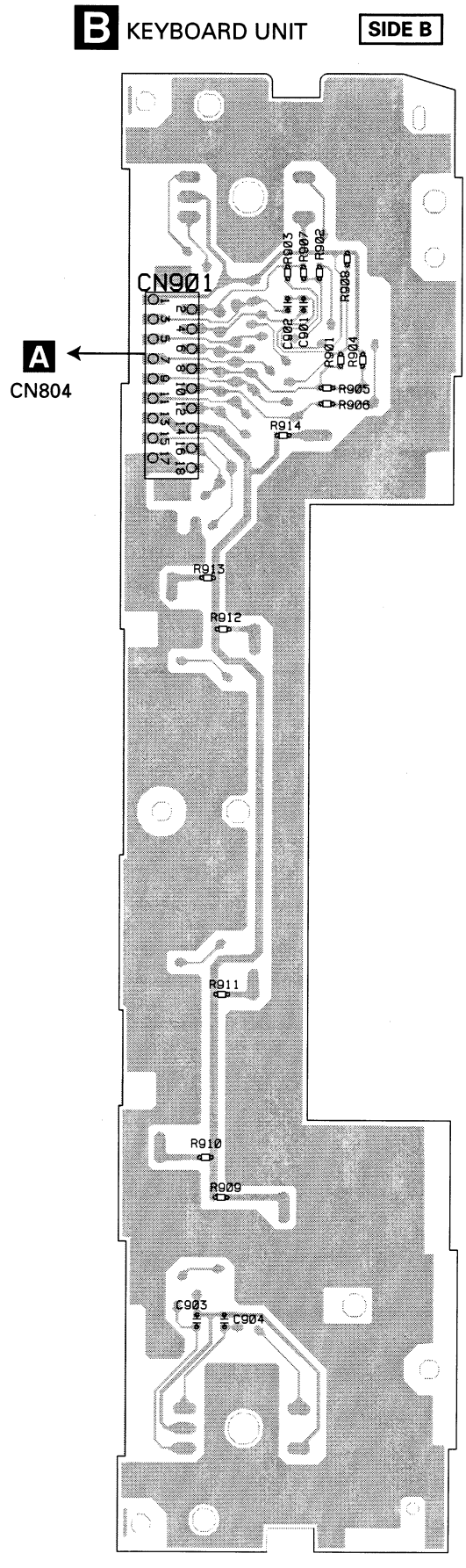

IC, Q
Q497
Q801
Q813
Q161
Q502
Q501
Q183
Q181
Q182
Q404

A B C D E F

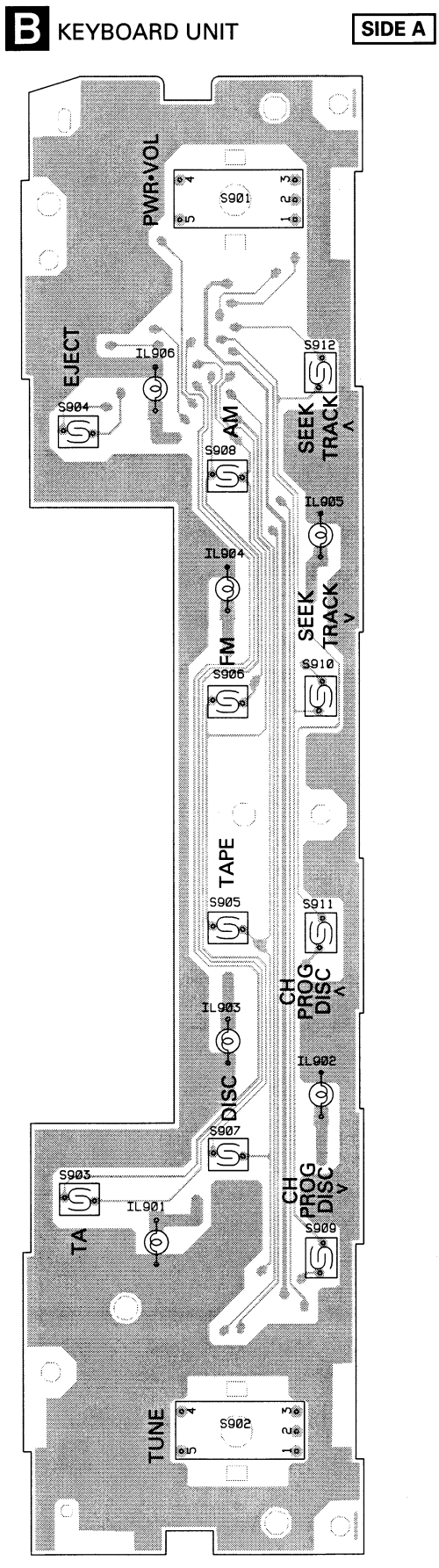
A

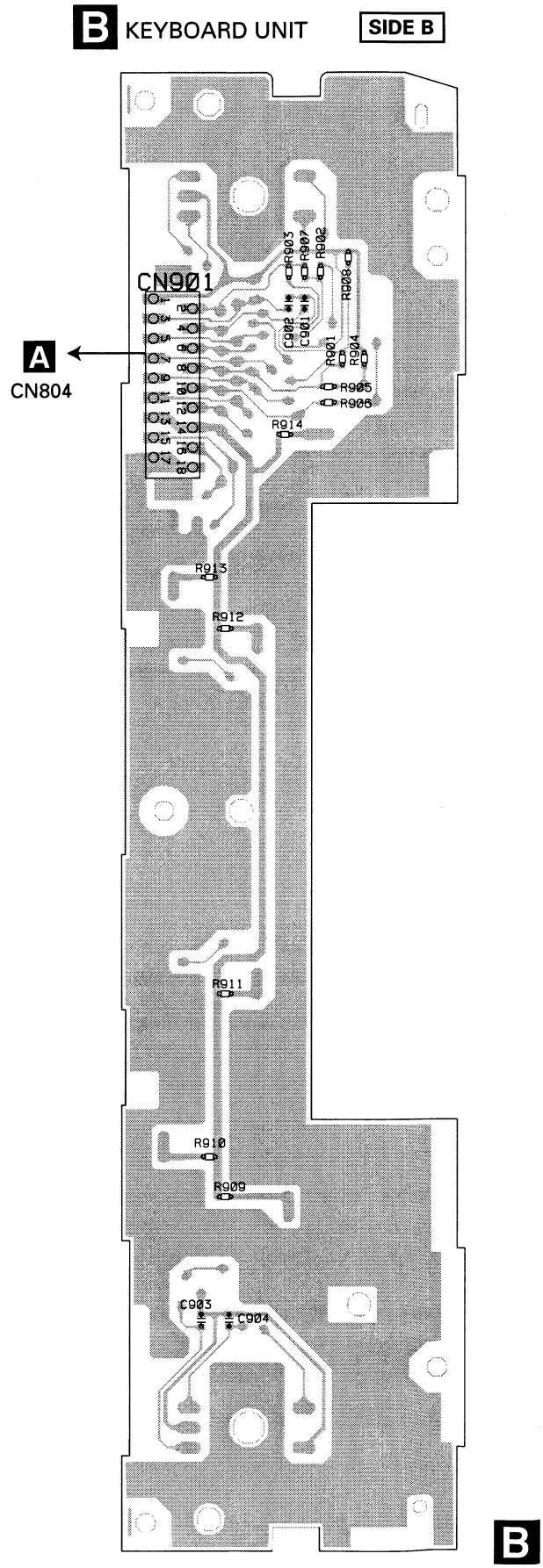
# 4.2 KEYBOARD UNIT(KEX-M8547ZT/EW)



# 4.3 KEYBOARD UNIT(KEX-M8647ZT/EW)

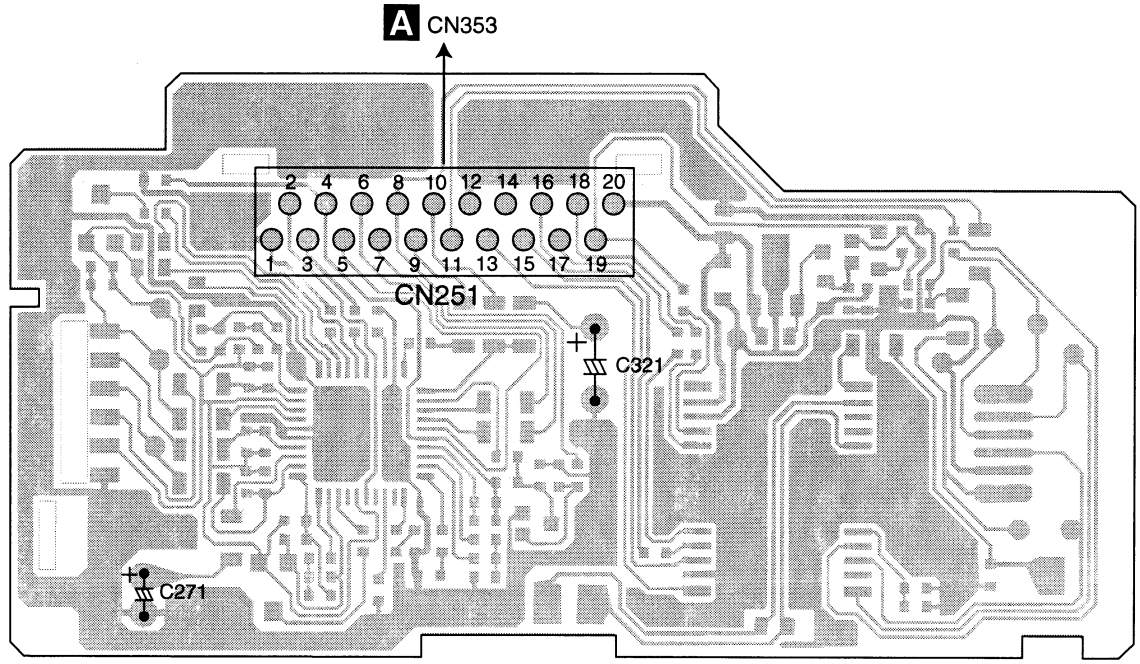


# 4.4 CASSETTE MECHANISM MODULE

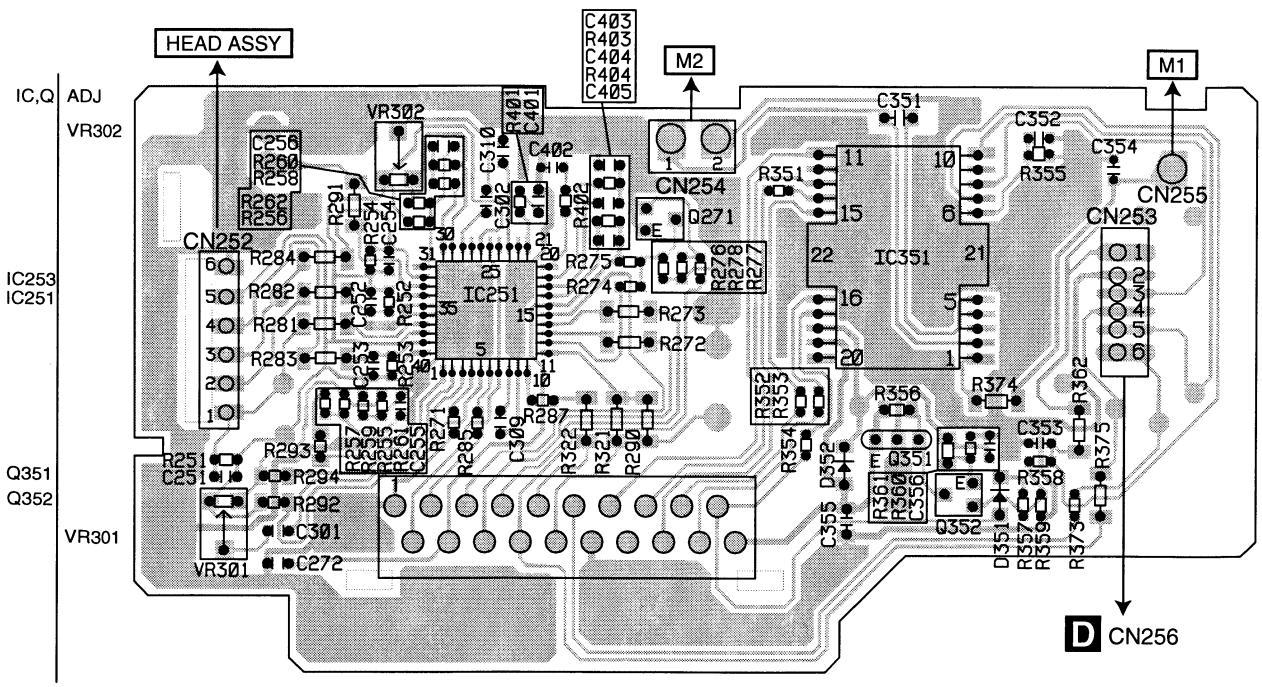
C DECK UNIT

SIDE A



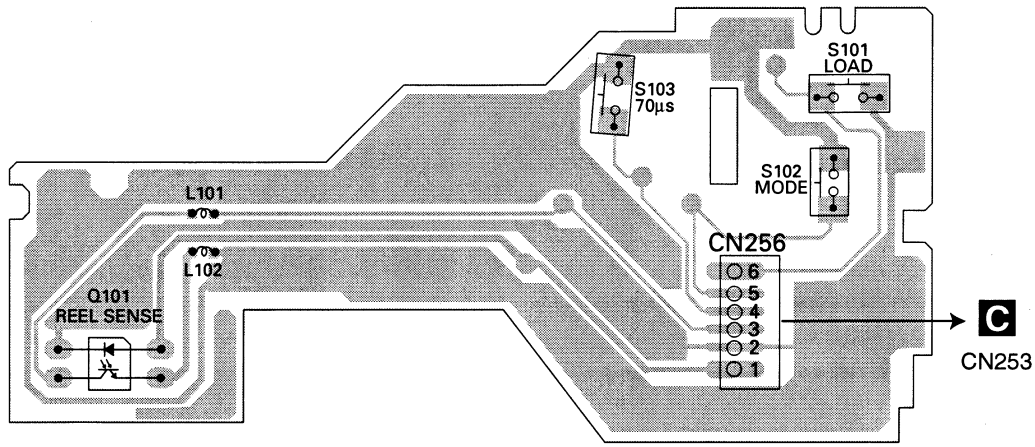

C DECK UNIT

SIDE B




C

## D SENSOR UNIT



# 5. ELECTRICAL PARTS LIST

*NOTE:*

- *Parts whose parts numbers are omitted are subject to being not supplied.*
- *The part numbers shown below indicate chip components.*

*Chip Resistor*

*RS1/○S○○○J,RS1/○○S○○○J*

*Chip Capacitor (except for CQS.....)*

*CKS....., CCS....., CSZS.....*

**A**

## Unit Number:CWM9554 (M8547ZT)
## Unit Number:CWM9555 (M8647ZT)
## Unit Name:Main Unit

### MISCELLANEOUS

| Circuit Symbol and No. | | Part No. |
|---|---|---|
| IC 151 | IC | LA1061M |
| IC 201 | IC | NJM2068MD |
| IC 202 | IC | TC4052BF |
| IC 203 | IC | NJM2068MD |
| IC 204 | IC | NJM2068MD |
| IC 252 | IC | PM4009A |
| IC 302 | IC | TC4052BF |
| IC 303 | IC | NJM2068MD |
| IC 304 | IC | NJM2068MD |
| IC 401 | IC | NJM2068MD |
| IC 501 | IC | LA1061M |
| IC 561 | IC | HA12181FP |
| IC 562 | IC | NJM2068MD |
| IC 601 | IC | PD5945A |
| IC 602 | IC | S-80835CNNB-B8U |
| IC 701 | IC | HA12187FP |
| IC 870 | IC | S-812C56AUA-C3K |
| Q 121 | Transistor | 2SC3356 |
| Q 126 | Transistor | 2SC3356 |
| Q 141 | Transistor | 2SC3356 |
| Q 146 | Transistor | 2SC3356 |
| Q 161 | Transistor | IMX1 |
| Q 171 | Transistor | 2SB1260 |
| Q 172 | Transistor | UMX1N |
| Q 181 | Transistor | DTC144EU |
| Q 182 | Transistor | 2SC4081 |
| Q 183 | Transistor | 2SA1576 |
| Q 201 | Transistor | DTC144EU |
| Q 202 | Transistor | DTC144EU |
| Q 203 | Transistor | DTC144EU |
| Q 204 | Transistor | FMG13 |
| Q 205 | Transistor | FMG13 |
| Q 252 | Transistor | 2SC3052-12 |
| Q 301 | Transistor | DTC144EU |
| Q 302 | Transistor | DTC144EU |
| Q 303 | Transistor | DTC144EU |
| Q 304 | Transistor | FMG13 |
| Q 305 | Transistor | FMG13 |
| Q 401 | Transistor | IMX1 |
| Q 402 | Transistor | FMG13 |
| Q 403 | Transistor | FMG13 |
| Q 404 | Transistor | DTA114EU |
| Q 405 | Transistor | DTC143TU |
| Q 406 | Transistor | IMH3A |
| Q 451 | Transistor | 2SB1260 |
| Q 452 | Transistor | 2SC2712 |
| Q 453 | Transistor | 2SC2712 |
| Q 497 | Transistor | DTC114EU |
| Q 501 | Transistor | IMX1 |
| Q 502 | Transistor | 2SC2712 |
| Q 561 | Transistor | 2SC2712 |
| Q 563 | Transistor | IMT2A |
| Q 564 | Transistor | IMH1A |
| Q 565 | Transistor | 2SB1689 |
| Q 566 | Transistor | DTC114EU |
| Q 644 | Transistor | DTC114EU |
| Q 645 | Transistor | 2SA1162 |
| Q 801 | Transistor | DTC114EU |
| Q 805 | Transistor | DTC144TUA |
| Q 806 | Transistor | DTC144TUA |
| Q 807 | Transistor | DTC144TUA |
| Q 810 | Transistor | 2SB1185 |
| Q 811 | Transistor | 2SB1185 |
| Q 813 | Transistor | 2SA1162 |
| Q 816 | Transistor | IMX1 |
| Q 817 | Transistor | IMX1 |
| Q 825 | Transistor | 2SA1162 |
| Q 860 | Transistor | 2SA1162 |
| Q 861 | Transistor | DTC143EU |
| Q 862 | Transistor | DTC144TUA |
| Q 863 | Transistor | IMD3A |
| Q 864 | Transistor | DTA114EU |
| Q 865 | Transistor | DTA114EU |
| Q 866 | Transistor | DTA114EU |
| Q 867 | Transistor | DTA114EU |
| Q 870 | Transistor | 2SD1767 |
| Q 882 | Transistor | 2SA1162 |
| Q 884 | Transistor | DTC124EU |
| D 101 | Diode | CPH5512 |
| D 102 | Diode | HZU3R3(B2) |
| D 115 | Diode | 1SS355 |
| D 135 | Diode | 1SS355 |
| D 181 | Diode | 1SV249 |
| D 182 | Diode | 1SV249 |
| D 203 | Diode | HZU4R7(B2) |
| D 401 | Diode | 1SS355 |
| D 452 | Diode | 1SS355 |
| D 472 | Diode | MPG06G-6415G50 |

| Circuit Symbol and No. | | Part No. |
|---|---|---|
| D 473 | Diode | MPG06G-6415G50 |
| D 474 | Diode | 1SS355 |
| D 475 | Diode | 1SS355 |
| D 497 | Diode | UDZS20(B) |
| D 502 | Diode | CPH5512 |
| D 562 | Diode | UDZS10(B) |
| D 563 | Diode | UDZS10(B) |
| D 691 | Diode | 1SS355 |
| D 692 | Diode | 1SS355 |
| D 693 | Diode | 1SS355 |
| D 703 | Diode | UDZS18(B) |
| D 704 | Diode | UDZS18(B) |
| D 801 | Diode | 1SS355 |
| D 802 | Diode | UDZS5R6(B) |
| D 803 | Diode | RM4LFJ10 |
| D 804 | Diode | 1SS355 |
| D 805 | Diode | UDZS20(B) |
| D 808 | Diode | HZU8R2(B2) |
| D 809 | Diode | HZU7R5(B3) |
| D 810 | Diode | HZU8R2(B2) |
| D 815 | Diode | 1SS355 |
| D 816 | Diode | HZU7R5(B3) |
| D 860 | Diode | HZU8R2(B3) |
| D 861 | Diode | 1SS355 |
| D 862 | Diode | 1SS355 |
| D 863 | Diode | DAP202K |
| D 864 | Diode | 1SS355 |
| D 870 | Diode | MPG06G-6415G50 |
| D 871 | Diode | UDZS16(B) |
| D 882 | Diode | 1SS355 |
| ZNR501 | Surge Protector | RCCA-201Q31UA-PI |
| ZNR502 | Surge Protector | RCCA-201Q31UA-PI |
| L 32 | Inductor | LCYB12NJ1608 |
| L 33 | Inductor | LCYB12NJ1608 |
| L 101 | Inductor | CTF1409 |
| L 104 | Inductor | CTF1473 |
| L 115 | Inductor | LCYBR12J1608 |
| L 116 | Inductor | LCYBR12J1608 |
| L 122 | Inductor | LCYBR10J1608 |
| L 127 | Inductor | LCYBR10J1608 |
| L 135 | Inductor | LCYBR12J1608 |
| L 136 | Inductor | LCYBR12J1608 |
| L 142 | Inductor | LCYBR10J1608 |
| L 147 | Inductor | LCYBR10J1608 |
| L 151 | Inductor | CTF1409 |
| L 152 | Inductor | CTF1409 |
| L 153 | Inductor | CTF1473 |
| L 161 | Inductor | LCTA561J4532 |
| L 251 | Inductor | LCTA101J2520 |
| L 363 | Inductor | LFEA4R7J |
| L 491 | Inductor | CTF1578 |
| L 492 | Inductor | CTF1578 |
| L 501 | Inductor | LCTA4R7J2520 |
| L 507 | Inductor | CTF1409 |
| L 508 | Inductor | CTF1409 |
| L 509 | Inductor | CTF1409 |
| L 510 | Inductor | LCTA561J4532 |
| L 511 | Inductor | CTF1473 |
| L 512 | Inductor | LCTA1R0J2520 |
| L 513 | Inductor | CTF1473 |

| Circuit Symbol and No. | | Part No. |
|---|---|---|
| L 514 | Inductor | CTF1473 |
| L 561 | Inductor | CTF1473 |
| L 601 | Inductor | LCTA100J3225 |
| L 801 | Coil 350µH | CTH1276 |
| T 121 | Coil | CTC1187 |
| T 126 | Coil | CTC1187 |
| T 141 | Coil | CTC1187 |
| T 146 | Coil | CTC1187 |
| T 501 | Coil | CTB1102 |
| X 251 | Crystal Resonator 3.648MHz | CSS1447 |
| X 601 | Radiator 10.0MHz | CSS1577 |
| VR561 | Semi-fixed 10kΩ(B) | CCP1396 |
| FU471 | Fuse 5A | CEK1216 |
| | FM Tuner Unit | CWE1679 |
| | FM/AM Tuner Unit | CWE1773 |

## RESISTORS

| | |
|---|---|
| R 13 | RS1/16S100J |
| R 14 | RS1/16S100J |
| R 15 | RS1/16S100J |
| R 16 | RS1/16S100J |
| R 101 | RS1/16S102J |
| R 103 | RS1/16S681J |
| R 104 | RS1/16S153J |
| R 105 | RS1/16S681J |
| R 106 | RS1/16S681J |
| R 107 | RS1/16S681J |
| R 108 | RS1/16S681J |
| R 109 | RS1/16S102J |
| R 110 | RS1/16S473J |
| R 112 | RS1/16S472J |
| R 113 | RS1/16S473J |
| R 115 | RS1/16S331J |
| R 117 | RS1/16S681J |
| R 121 | RS1/16S100J |
| R 122 | RS1/16S222J |
| R 123 | RS1/16S121J |
| R 124 | RS1/16S220J |
| R 125 | RS1/16S100J |
| R 126 | RS1/16S100J |
| R 127 | RS1/16S222J |
| R 128 | RS1/16S121J |
| R 129 | RS1/16S220J |
| R 130 | RS1/16S100J |
| R 135 | RS1/16S331J |
| R 141 | RS1/16S100J |
| R 142 | RS1/16S222J |
| R 143 | RS1/16S121J |
| R 144 | RS1/16S220J |
| R 145 | RS1/16S100J |
| R 146 | RS1/16S100J |
| R 147 | RS1/16S222J |
| R 148 | RS1/16S121J |
| R 149 | RS1/16S220J |
| R 150 | RS1/16S100J |
| R 151 | RS1/16S104J |
| R 152 | RS1/16S103J |
| R 153 | RS1/16S103J |
| R 154 | RS1/16S334J |

| Circuit Symbol and No. | Part No. | Circuit Symbol and No. | Part No. |
|---|---|---|---|
| R 155 | RS1/16S101J | R 241 | RS1/16S222J |
| R 156 | RS1/16S101J | R 243 | RS1/10S103J |
| R 157 | RS1/16S104J | R 244 | RS1/10S103J |
| R 158 | RS1/16S104J | R 245 | RS1/10S103J |
| R 161 | RS1/16S683J | R 246 | RS1/10S103J |
| R 162 | RS1/16S224J | R 247 | RS1/16S223J |
| R 163 | RS1/16S473J | R 248 | RS1/16S223J |
| R 164 | RS1/16S473J | R 249 | RS1/16S223J |
| R 165 | RS1/16S182J | R 250 | RS1/16S223J |
| R 166 | RS1/16S103J | R 251 | RS1/16S153J |
| R 171 | RS1/16S152J | R 252 | RS1/16S474J |
| R 172 | RS1/16S822J | R 253 | RS1/16S681J |
| R 174 | RS1/16S472J | R 254 | RS1/16S0R0J |
| R 175 | RS1/16S223J | R 257 | RS1/16S102J |
| R 176 | RS1/16S103J | R 261 | RS1/16S225J |
| R 178 | RS1/10S2R2J | R 285 | RS1/16S104J |
| R 181 | RS1/16S102J | R 286 | RS1/16S104J |
| R 182 | RS1/16S223J | R 313 | RS1/16S163J |
| R 183 | RS1/16S102J | R 314 | RS1/16S163J |
| R 184 | RS1/16S102J | R 315 | RS1/16S163J |
| R 185 | RS1/16S472J | R 316 | RS1/16S163J |
| R 186 | RS1/16S101J | R 317 | RS1/16S163J |
| R 187 | RS1/16S223J | R 318 | RS1/16S163J |
| R 201 | RS1/16S223J | R 319 | RS1/16S163J |
| R 202 | RS1/16S223J | R 320 | RS1/16S163J |
| R 203 | RS1/16S223J | R 321 | RS1/16S103J |
| R 204 | RS1/16S223J | R 322 | RS1/16S103J |
| R 205 | RS1/16S223J | R 323 | RS1/16S103J |
| R 206 | RS1/16S223J | R 324 | RS1/16S103J |
| R 207 | RS1/16S223J | R 325 | RS1/16S181J |
| R 208 | RS1/16S223J | R 326 | RS1/16S181J |
| R 211 | RS1/16S101J | R 327 | RS1/16S181J |
| R 212 | RS1/16S101J | R 328 | RS1/16S181J |
| R 213 | RS1/16S163J | R 329 | RS1/10S470J |
| R 214 | RS1/16S163J | R 330 | RS1/10S470J |
| R 215 | RS1/16S163J | R 331 | RS1/10S470J |
| R 216 | RS1/16S163J | R 332 | RS1/10S470J |
| R 217 | RS1/16S163J | R 333 | RS1/16S473J |
| R 218 | RS1/16S163J | R 334 | RS1/16S473J |
| R 219 | RS1/16S163J | R 335 | RS1/16S473J |
| R 220 | RS1/16S163J | R 337 | RS1/16S473J |
| R 221 | RS1/16S103J | R 338 | RS1/16S473J |
| R 222 | RS1/16S103J | R 339 | RS1/16S473J |
| R 223 | RS1/16S103J | R 340 | RS1/16S473J |
| R 224 | RS1/16S103J | R 359 | RS1/16S100J |
| R 225 | RS1/16S181J | R 401 | RS1/16S432J |
| R 226 | RS1/16S181J | R 402 | RS1/16S432J |
| R 227 | RS1/16S181J | R 405 | RS1/16S224J |
| R 228 | RS1/16S181J | R 407 | RS1/16S102J |
| R 229 | RS1/10S470J | R 408 | RS1/16S102J |
| R 230 | RS1/10S470J | R 409 | RS1/16S222J |
| R 231 | RS1/10S470J | R 410 | RS1/16S222J |
| R 232 | RS1/10S470J | R 411 | RS1/16S224J |
| R 233 | RS1/16S473J | R 412 | RS1/16S224J |
| R 234 | RS1/16S473J | R 413 | RS1/16S102J |
| R 235 | RS1/16S473J | R 414 | RS1/16S102J |
| R 237 | RS1/16S473J | R 417 | RS1/16S753J |
| R 238 | RS1/16S473J | R 418 | RS1/16S753J |
| R 239 | RS1/16S473J | R 427 | RS1/16S123J |
| R 240 | RS1/16S473J | R 428 | RS1/16S123J |

| Circuit Symbol and No. | Part No. | Circuit Symbol and No. | Part No. |
|---|---|---|---|
| R 429 | RS1/16S823J | R 566 | RS1/16S222J |
| R 430 | RS1/16S823J | R 567 | RS1/16S822J |
| R 431 | RS1/16S473J | R 568 | RS1/16S222J |
| R 432 | RS1/16S473J | R 569 | RS1/16S164J |
| R 433 | RS1/16S101J | R 570 | RS1/16S223J |
| R 451 | RS1/16S102J | R 571 | RS1/16S473J |
| R 452 | RS1/16S223J | R 572 | RS1/16S472J |
| R 453 | RS1/16S823J | R 573 | RS1/16S332J |
| R 454 | RS1/16S181J | R 574 | RS1/16S332J |
| R 455 | RS1/16S181J | R 575 | RS1/16S332J |
| R 456 | RS1/16S181J | R 576 | RS1/16S683J |
| R 457 | RS1/16S181J | R 577 | RS1/16S332J |
| R 458 | RS1/16S181J | R 578 | RS1/16S683J |
| R 459 | RS1/16S223J | R 579 | RS1/16S221J |
| R 460 | RS1/16S223J | R 580 | RS1/16S221J |
| R 497 | RS1/4S121J | R 581 | RS1/16S683J |
| R 498 | RS1/4S121J | R 582 | RS1/16S332J |
| R 500 | RS1/16S471J | R 583 | RS1/16S332J |
| R 506 | RS1/16S104J | R 584 | RS1/16S332J |
| R 507 | RS1/16S103J | R 585 | RS1/16S332J |
| R 508 | RS1/16S103J | R 588 | RS1/16S562J |
| R 509 | RS1/16S334J | R 603 | RS1/16S102J |
| R 510 | RS1/16S101J | R 604 | RS1/16S681J |
| R 511 | RS1/16S101J | R 605 | RS1/16S102J |
| R 512 | RS1/16S104J | R 606 | RS1/16S0R0J |
| R 513 | RS1/16S104J | R 607 | RS1/16S104J |
| R 514 | RS1/16S103J | R 608 | RS1/16S102J |
| R 515 | RS1/16S182J | R 609 | RS1/16S681J |
| R 516 | RS1/16S683J | R 610 | RS1/16S0R0J |
| R 517 | RS1/16S224J | R 611 | RS1/16S0R0J |
| R 518 | RS1/16S473J | R 612 | RS1/16S102J |
| R 519 | RS1/16S473J | R 616 | RS1/16S473J |
| R 520 | RS1/16S102J | R 620 | RS1/16S0R0J |
| R 522 | RS1/16S222J | R 621 | RS1/16S681J |
| R 525 | RS1/16S473J | R 622 | RS1/16S0R0J |
| R 526 | RS1/16S681J | R 624 | RS1/16S0R0J |
| R 527 | RS1/16S681J | R 625 | RS1/16S681J |
| R 528 | RS1/16S681J | R 626 (M8547ZT) | RS1/16S473J |
| R 529 | RS1/16S103J | R 627 (M8647ZT) | RS1/16S473J |
| R 530 | RS1/16S681J | R 629 | RS1/16S472J |
| R 531 | RS1/16S473J | R 631 | RS1/16S0R0J |
| R 532 | RS1/16S473J | R 632 | RS1/16S102J |
| R 533 | RS1/16S472J | R 633 | RS1/16S102J |
| R 534 | RS1/16S393J | R 634 | RS1/16S102J |
| R 535 | RS1/16S473J | R 635 | RS1/16S471J |
| R 536 | RS1/16S103J | R 637 | RS1/16S102J |
| R 537 | RS1/16S473J | R 638 | RS1/16S102J |
| R 538 | RS1/16S681J | R 641 | RS1/16S473J |
| R 539 | RS1/16S681J | R 642 | RS1/16S104J |
| R 541 | RS1/16S681J | R 643 | RS1/16S104J |
| R 542 | RS1/16S681J | R 644 | RS1/16S473J |
| R 543 | RS1/16S681J | R 645 | RS1/16S102J |
| R 544 | RS1/16S681J | R 646 | RS1/16S103J |
| R 545 | RS1/16S473J | R 647 | RS1/16S102J |
| R 546 | RS1/16S103J | R 648 | RS1/16S102J |
| R 561 | RS1/16S104J | R 654 | RS1/16S102J |
| R 562 | RS1/16S123J | R 655 | RS1/16S102J |
| R 563 | RS1/16S105J | R 656 | RS1/16S102J |
| R 564 | RS1/16S562J | R 657 | RS1/16S102J |
| R 565 | RS1/16S223J | R 658 | RS1/16S223J |

| Circuit Symbol and No. | | Part No. |
|---|---|---|
| R 659 | | RS1/16S102J |
| R 660 | | RS1/16S102J |
| R 661 | | RS1/16S102J |
| R 662 | | RS1/16S102J |
| R 663 | | RS1/16S102J |
| R 664 | | RS1/16S102J |
| R 665 | | RS1/16S102J |
| R 666 | | RS1/16S681J |
| R 667 | | RS1/16S473J |
| R 668 | | RS1/16S473J |
| R 669 | | RS1/16S473J |
| R 670 | | RS1/16S473J |
| R 671 | | RS1/16S473J |
| R 672 | | RS1/16S473J |
| R 673 | | RS1/16S473J |
| R 674 | | RS1/16S473J |
| R 675 | | RS1/16S473J |
| R 676 | | RS1/16S102J |
| R 677 | | RS1/16S102J |
| R 678 | | RS1/16S102J |
| R 679 | | RS1/16S102J |
| R 680 | | RS1/16S102J |
| R 681 | | RS1/16S102J |
| R 682 | | RS1/16S102J |
| R 683 | | RS1/16S102J |
| R 684 | | RS1/16S102J |
| R 685 | | RS1/16S102J |
| R 687 | | RS1/16S473J |
| R 690 | | RS1/16S473J |
| R 691 | | RS1/16S473J |
| R 692 | | RS1/16S473J |
| R 693 | | RS1/16S473J |
| R 698 | | RS1/16S102J |
| R 699 | | RS1/16S473J |
| R 701 | | RS1/16S473J |
| R 703 | | RS1/4S101J |
| R 704 | | RS1/4S101J |
| R 705 | | RS1PMF680J |
| R 711 | | RS1/16S473J |
| R 751 | (M8647ZT) | RS1/16S822J |
| R 801 | | RS1/8S222J |
| R 802 | | RS1/8S472J |
| R 803 | | RS1/8S472J |
| R 804 | | RS1/8S472J |
| R 805 | | RS1/8S472J |
| R 806 | | RS1/8S472J |
| R 807 | | RS1/4S121J |
| R 808 | | RS1/4S121J |
| R 810 | | RS1/16S104J |
| R 811 | | RS1/16S104J |
| R 812 | | RS1/16S104J |
| R 820 | | RS1/16S123J |
| R 821 | | RS1/16S103J |
| R 822 | | RS1/16S103J |
| R 834 | | RS1/16S223J |
| R 835 | | RS1/16S221J |
| R 836 | | RS1/16S331J |
| R 837 | | RS1/16S681J |
| R 838 | | RS1/16S471J |
| R 839 | | RS1/16S151J |

| Circuit Symbol and No. | Part No. |
|---|---|
| R 840 | RS1/4S1R5J |
| R 841 | RS1/4S1R5J |
| R 844 | RS1/16S471J |
| R 846 | RS1/16S105J |
| R 847 | RS1/10S361J |
| R 848 | RS1/16S272J |
| R 849 | RS1/16S392J |
| R 856 | RS1/16S103J |
| R 857 | RS1/16S103J |
| R 860 | RS1/16S223J |
| R 861 | RS1/16S103J |
| R 862 | RS1/16S104J |
| R 863 | RS1/16S223J |
| R 865 | RS1/16S103J |
| R 867 | RS1/16S472J |
| R 868 | RS1/16S102J |
| R 869 | RS1/16S102J |
| R 870 | RS1/10S102J |
| R 871 | RS1/16S472J |
| R 882 | RD1/4PU121J |
| R 884 | RS1/16S223J |
| R 886 | RS1/16S472J |
| R 888 | RS1/16S473J |

## CAPACITORS

| | |
|---|---|
| C 32 | CCSRCH100D50 |
| C 33 | CCSRCH100D50 |
| C 101 | CKSRYB102K50 |
| C 102 | CKSRYB472K50 |
| C 103 | CKSRYB102K50 |
| C 104 | CKSRYB104K25 |
| C 105 | CKSRYB102K50 |
| C 107 | CKSRYB105K10 |
| C 115 | CCSRCH270J50 |
| C 116 | CCSRCH150J50 |
| C 117 | CCSRCH100D50 |
| C 118 | CCSRCK2R0C50 |
| C 120 | CKSRYB103K50 |
| C 121 | CKSRYB222K50 |
| C 122 | CKSRYB472K50 |
| C 123 | CCSRCH120J50 |
| C 124 | CKSRYB102K50 |
| C 126 | CKSRYB222K50 |
| C 127 | CKSRYB472K50 |
| C 128 | CCSRCH120J50 |
| C 129 | CKSRYB102K50 |
| C 135 | CCSRCH270J50 |
| C 136 | CCSRCH150J50 |
| C 137 | CCSRCH100D50 |
| C 138 | CCSRCK2R0C50 |
| C 140 | CKSRYB103K50 |
| C 141 | CKSRYB222K50 |
| C 142 | CKSRYB472K50 |
| C 143 | CCSRCH120J50 |
| C 144 | CKSRYB102K50 |
| C 146 | CKSRYB222K50 |
| C 147 | CKSRYB472K50 |
| C 148 | CCSRCH120J50 |
| C 149 | CKSRYB102K50 |
| C 151 | CKSRYB472K50 |

| Circuit Symbol and No. | | Part No. | Circuit Symbol and No. | | Part No. |
|---|---|---|---|---|---|
| C 152 | | CKSRYB103K50 | C 261 | | CCSRCH471J50 |
| C 153 | | CKSYB106K6R3 | C 262 | | CEJQ4R7M35 |
| C 154 | | CKSRYB105K10 | C 263 | | CKSRYB473K50 |
| C 155 | | CKSRYB102K50 | C 281 | | CKSRYB182K50 |
| C 156 | | CKSQYB225K10 | C 282 | | CKSRYB182K50 |
| C 157 | | CKSRYB103K50 | C 283 | | CKSRYB182K50 |
| C 158 | | CKSRYB102K50 | C 284 | | CKSRYB182K50 |
| C 161 | | CKSRYB392K50 | C 285 | | CCSRCH391J50 |
| C 162 | | CKSRYB103K50 | C 286 | | CCSRCH391J50 |
| C 163 | | CKSRYB103K50 | C 309 | | CKSRYB102K50 |
| C 171 | | CKSRYB104K16 | C 310 | | CKSRYB105K10 |
| C 172 | | CKSRYB103K50 | C 319 | | CCSRCH220J50 |
| C 173 | | CKSRYB103K50 | C 320 | | CCSRCH220J50 |
| C 181 | | CKSRYB105K10 | C 321 | | CCSRCH220J50 |
| C 182 | | CKSRYB103K50 | C 322 | | CCSRCH220J50 |
| C 183 | | CKSRYB222K50 | C 323 | 4.7µF/35V | CCH1432 |
| C 184 | | CKSRYB222K50 | C 324 | 4.7µF/35V | CCH1432 |
| C 201 | | CEJQNP4R7M16 | C 325 | 4.7µF/35V | CCH1432 |
| C 202 | | CEJQNP4R7M16 | C 326 | 4.7µF/35V | CCH1432 |
| C 203 | | CEJQNP4R7M16 | C 327 | | CCSRCH221J50 |
| C 204 | | CEJQNP4R7M16 | C 328 | | CCSRCH221J50 |
| C 205 | | CCSRCH330J50 | C 329 | | CCSRCH221J50 |
| C 206 | | CCSRCH330J50 | C 330 | | CCSRCH221J50 |
| C 207 | | CCSRCH330J50 | C 335 | 4.7µF/35V | CCH1432 |
| C 208 | | CCSRCH330J50 | C 336 | 4.7µF/35V | CCH1432 |
| C 209 | | CKSRYB102K50 | C 337 | 4.7µF/35V | CCH1432 |
| C 210 | | CKSRYB105K10 | C 338 | 4.7µF/35V | CCH1432 |
| C 215 | | CEJQNP4R7M16 | C 351 | | CEJQ4R7M35 |
| C 216 | | CEJQNP4R7M16 | C 355 | | CEJQ220M10 |
| C 219 | | CCSRCH220J50 | C 356 | | CEJQ100M16 |
| C 220 | | CCSRCH220J50 | C 381 | | CKSRYB182K50 |
| C 221 | | CCSRCH220J50 | C 382 | | CKSRYB182K50 |
| C 222 | | CCSRCH220J50 | C 383 | | CKSRYB182K50 |
| C 223 | 4.7µF/35V | CCH1432 | C 384 | | CKSRYB182K50 |
| C 224 | 4.7µF/35V | CCH1432 | C 401 | | CKSRYB123K50 |
| C 225 | 4.7µF/35V | CCH1432 | C 402 | | CKSRYB123K50 |
| C 226 | 4.7µF/35V | CCH1432 | C 403 | 4.7µF/35V | CCH1432 |
| C 227 | | CCSRCH221J50 | C 404 | 4.7µF/35V | CCH1432 |
| C 228 | | CCSRCH221J50 | C 405 | | CKSRYB153K50 |
| C 229 | | CCSRCH221J50 | C 406 | | CKSRYB102K50 |
| C 230 | | CCSRCH221J50 | C 411 | | CKSRYB104K16 |
| C 231 | | CKSRYB473K50 | C 412 | | CKSRYB104K16 |
| C 232 | | CEJQ101M6R3 | C 415 | | CKSRYB105K10 |
| C 233 | | CKSRYB102K50 | C 416 | | CKSRYB105K10 |
| C 235 | 4.7µF/35V | CCH1432 | C 417 | | CCSRCH391J50 |
| C 236 | 4.7µF/35V | CCH1432 | C 418 | | CCSRCH391J50 |
| C 237 | 4.7µF/35V | CCH1432 | C 421 | | CEJQ470M6R3 |
| C 238 | 4.7µF/35V | CCH1432 | C 451 | | CKSRYB222K50 |
| C 243 | | CKSQYB102K50 | C 480 | | CKSQYB102K50 |
| C 244 | | CKSQYB102K50 | C 493 | | CCSQCH181J50 |
| C 245 | | CKSQYB102K50 | C 494 | | CCSQCH181J50 |
| C 246 | | CKSQYB102K50 | C 495 | | CKSQYB102K50 |
| C 251 | | CKSRYB104K16 | C 496 | | CKSQYB102K50 |
| C 252 | | CKSRYB472K50 | C 497 | | CCSRCH221J50 |
| C 253 | | CEJQ220M6R3 | C 503 | | CKSQYB103K50 |
| C 254 | | CKSRYB104K16 | C 504 | | CKSRYB102K50 |
| C 256 | | CCSRCH270J50 | C 506 | | CCSRCH100D50 |
| C 257 | | CCSRCH270J50 | C 507 | | CKSRYB472K50 |
| C 259 | | CKSRYB104K16 | C 508 | | CKSRYB103K50 |
| C 260 | | CCSRCH471J50 | C 509 | | CKSRYB103K50 |

| Circuit Symbol and No. | Part No. |
|---|---|
| C 510 | CKSYB106K6R3 |
| C 511 | CKSRYB472K50 |
| C 512 | CEV100M16 |
| C 513 | CKSRYB102K50 |
| C 514 | CKSQYB225K10 |
| C 515 | CKSRYB102K50 |
| C 516 | CKSRYB103K50 |
| C 517 | CKSRYB103K50 |
| C 518 | CKSRYB392K50 |
| C 519 | CKSRYB103K50 |
| C 520 | CKSRYB103K50 |
| C 521 | CEV101M10 |
| C 522 | CKSRYB103K50 |
| C 523 | CEJQ100M16 |
| C 524 | CKSRYB472K50 |
| C 525 | CKSRYB102K50 |
| C 561 | CEJQ3R3M50 |
| C 562 | CKSRYB333K16 |
| C 563 | CEJQNP1R0M50 |
| C 564 | CQMA683J50 |
| C 565 | CQMA333J50 |
| C 566 | CQMA333J50 |
| C 567 | CQMA333J50 |
| C 568 | CKSRYB105K10 |
| C 569 | CKSRYB333K16 |
| C 570 | CKSRYB123K50 |
| C 571 | CKSRYB682K50 |
| C 572 | CEJQ101M10 |
| C 573 | CKSRYB392K50 |
| C 574 | CKSRYB334K10 |
| C 575 | CKSRYB102K50 |
| C 576 | CCSRCH151J50 |
| C 579 | CCSRCH470J50 |
| C 580 | CCSRCH470J50 |
| C 581 | CCSRCH470J50 |
| C 582 | CKSRYB473K50 |
| C 583 | CKSRYB473K50 |
| C 584 | CKSRYB473K50 |
| C 585 | CKSRYB223K50 |
| C 586 | CKSRYB223K50 |
| C 587 | CKSRYB104K16 |
| C 601 | CKSRYB102K50 |
| C 602 | CKSRYB103K50 |
| C 603 | CKSRYB103K50 |
| C 604 | CKSRYB104K16 |
| C 605 | CEJQ220M6R3 |
| C 645 | CKSRYB103K50 |
| C 648 | CKSRYB102K50 |
| C 671 | CCSRCH101J50 |
| C 672 | CCSRCH101J50 |
| C 673 | CCSRCH101J50 |
| C 674 | CCSRCH101J50 |
| C 675 | CCSRCH101J50 |
| C 691 | CKSRYB102K50 |
| C 692 | CKSRYB102K50 |
| C 693 | CKSRYB102K50 |
| C 694 | CKSRYB102K50 |
| C 695 | CKSRYB102K50 |
| C 696 | CKSRYB102K50 |
| C 697 | CKSRYB102K50 |

| Circuit Symbol and No. | | Part No. |
|---|---|---|
| C 701 | | CKSRYB103K50 |
| C 703 | | CCSRCH221J50 |
| C 704 | | CCSRCH221J50 |
| C 801 | | CKSRYB102K50 |
| C 802 | | CEJQ1R0M50 |
| C 803 | | CKSRYB102K50 |
| C 804 | 2200µF/16V | CCH1405(P35) |
| C 805 | | CKSQYB473K50 |
| C 806 | | CKSRYB102K50 |
| C 807 | | CEJQ1R0M50 |
| C 808 | | CKSRYB102K50 |
| C 814 | | CEJQ1R0M50 |
| C 815 | | CEJQ1R0M50 |
| C 821 | | CKSRYB103K50 |
| C 822 | 100µF/10V | CCH1402 |
| C 823 | | CKSRYB103K50 |
| C 824 | | CKSRYB472K50 |
| C 825 | 100µF/10V | CCH1402 |
| C 829 | | CKSRYB103K50 |
| C 861 | | CEJQ101M6R3 |
| C 866 | | CEJQ100M16 |
| C 867 | | CEJQ100M16 |
| C 870 | | CKSRYB103K50 |
| C 871 | | CKSRYB103K50 |
| C 872 | 2200µF/16V | CCH1405(P35) |
| C 873 | | CKSRYB105K10 |
| C 883 | | CKSRYB103K50 |

# B

## Unit Number:CWS1338(M8547ZT)
## Unit Number:CWS1339(M8647ZT)
## Unit Name:Keyboard Unit

### MISCELLANEOUS

| | | |
|---|---|---|
| S 901 | Encoder(M8547ZT) | CSD1083 |
| S 901 | Encoder(M8647ZT) | CSD1080 |
| S 902 | Encoder(M8547ZT) | CSD1080 |
| S 902 | Encoder(M8647ZT) | CSD1083 |
| IL 901 | Lamp 8V 85mA | CEL1748 |
| IL 902 | Lamp 8V 85mA | CEL1748 |
| IL 903 | Lamp 8V 85mA | CEL1748 |
| IL 904 | Lamp 8V 85mA | CEL1748 |
| IL 905 | Lamp 8V 85mA | CEL1748 |
| IL 906 | Lamp 8V 85mA | CEL1748 |

### RESISTORS

| | | |
|---|---|---|
| R 901 | (M8647ZT) | RS1/16S0R0J |
| R 902 | (M8647ZT) | RS1/16S0R0J |
| R 903 | (M8647ZT) | RS1/16S0R0J |
| R 904 | (M8647ZT) | RS1/16S0R0J |
| R 905 | (M8547ZT) | RS1/16S0R0J |
| R 906 | (M8547ZT) | RS1/16S0R0J |
| R 907 | | RS1/16S0R0J |
| R 908 | (M8547ZT) | RS1/16S0R0J |
| R 909 | | RS1/16S3R3J |
| R 910 | | RS1/16S5R6J |
| R 911 | | RS1/16S3R3J |
| R 912 | | RS1/16S3R3J |

| Circuit Symbol and No. | | Part No. |
|---|---|---|
| R 913 | | RS1/16S5R6J |
| R 914 | | RS1/16S3R3J |

# C
## Unit Number:EWM1031
## Unit Name:Deck Unit

### MISCELLANEOUS

| | | |
|---|---|---|
| IC 251 | IC | HA12216F |
| IC 351 | IC | PA2020B |
| Q 271 | Transistor | 2SC4116 |
| D 352 | Diode | 1SS355 |
| VR301 | Semi-fixed 33kΩ(B) | CCP1280 |
| VR302 | Semi-fixed 33kΩ(B) | CCP1280 |

### RESISTORS

| | |
|---|---|
| R 255 | RS1/16S181J |
| R 256 | RS1/16S181J |
| R 257 | RS1/16S183J |
| R 258 | RS1/16S183J |
| R 259 | RS1/16S133J |
| R 260 | RS1/16S133J |
| R 261 | RS1/16S274J |
| R 262 | RS1/16S274J |
| R 271 | RS1/16S183J |
| R 272 | RS1/8S0R0J |
| R 273 | RS1/8S0R0J |
| R 274 | RS1/16S0R0J |
| R 275 | RS1/16S473J |
| R 276 | RS1/16S104J |
| R 277 | RS1/16S224J |
| R 278 | RS1/16S104J |
| R 281 | RS1/8S0R0J |
| R 282 | RS1/8S0R0J |
| R 283 | RS1/8S0R0J |
| R 284 | RS1/8S0R0J |
| R 285 | RS1/16S0R0J |
| R 287 | RS1/16S0R0J |
| R 291 | RS1/8S0R0J |
| R 292 | RS1/10S0R0J |
| R 293 | RS1/10S0R0J |
| R 294 | RS1/10S0R0J |
| R 321 | RS1/8S0R0J |
| R 322 | RS1/8S0R0J |
| R 351 | RS1/16S102J |
| R 352 | RS1/16S102J |
| R 353 | RS1/16S102J |
| R 354 | RS1/16S102J |
| R 355 | RS1/16S274J |
| R 362 | RS1/8S301J |
| R 373 | RS1/16S0R0J |
| R 374 | RS1/8S0R0J |
| R 375 | RS1/8S0R0J |
| R 401 | RS1/16S153J |
| R 402 | RS1/16S332J |
| R 403 | RS1/16S911J |
| R 404 | RS1/16S274J |

| Circuit Symbol and No. | | Part No. |
|---|---|---|
| **CAPACITORS** | | |
| C 251 | | CKSRYB391K50 |
| C 252 | | CKSRYB391K50 |
| C 253 | | CKSRYB391K50 |
| C 254 | | CKSRYB391K50 |
| C 255 | | CKSRYB103K50 |
| C 256 | | CKSRYB103K50 |
| C 271 | 1µF/50V | ECH0002 |
| C 272 | | CKSRYB104K25 |
| C 301 | | CKSRYB104K25 |
| C 302 | | CKSRYB104K25 |
| C 309 | | CKSRYB104K25 |
| C 310 | | CKSRYB104K25 |
| C 351 | | CKSQYB224K16 |
| C 352 | | CKSRYB392K50 |
| C 353 | | CKSRYB103K50 |
| C 354 | | CKSRYB103K50 |
| C 355 | | CKSQYB104K50 |
| C 356 | | CKSRYB103K50 |
| C 401 | | CKSRYB392K50 |
| C 402 | | CKSRYB334K10 |
| C 403 | | CKSRYB223K25 |
| C 404 | | CKSRYB103K50 |
| C 405 | | CKSRYB333K16 |

# D
## Unit Number:EWM1041
## Unit Name:Sensor Unit

### MISCELLANEOUS

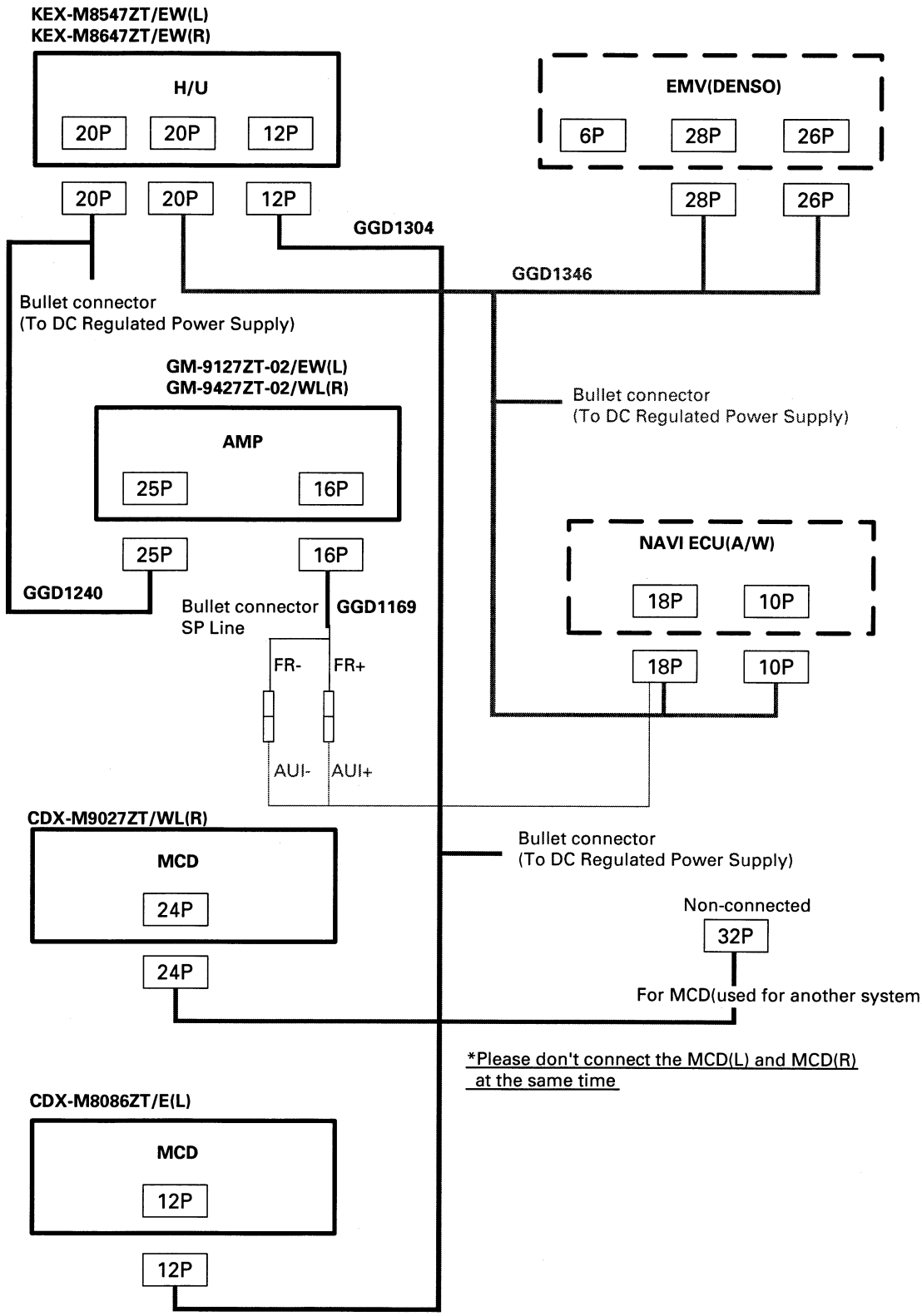
| | | |
|---|---|---|
| L 101 | Inductor | CTF1546 |
| L 102 | Inductor | CTF1546 |
| S 101 | Switch(LOAD) | ESG1007 |
| S 102 | Switch(MODE) | ESG1007 |
| S 103 | Switch(70µS) | ESG1007 |
| Q 101 | Photo-reflector | EGN1004 |

## Miscellaneous Parts List

| | | |
|---|---|---|
| M 1 | Motor Unit(MAIN) | EXA1618 |
| M 2 | Motor Unit(SUB) | EXA1660 |
| HD1 | Head Assy | EXA1594 |

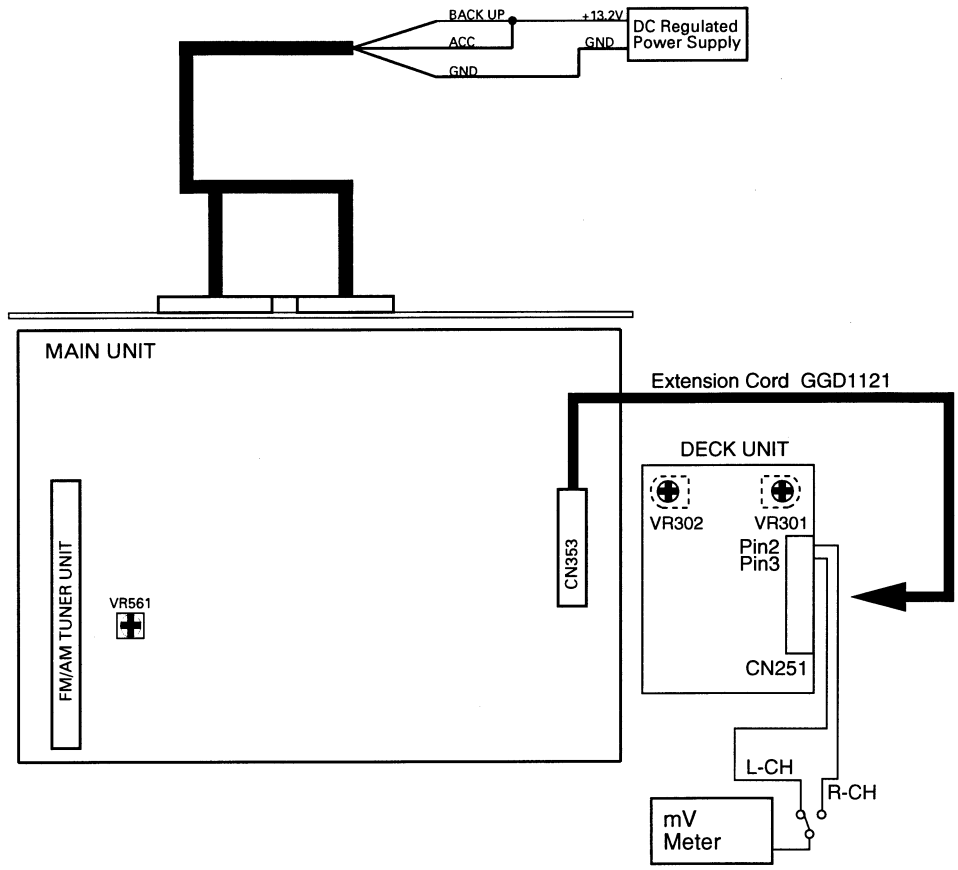
# 6. ADJUSTMENT
## 6.1 JIG CONNECTION DIAGRAM

● **Connection Diagram TOYOTA EMV SYSTEM MODEL**



# 6.2 CASSETTE AND AUDIO ADJUSTMENT

**●Connection Diagram**

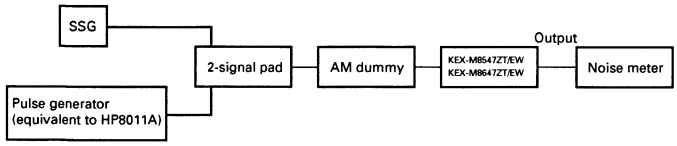



**DOLBY B NR ADJUSTMENT**

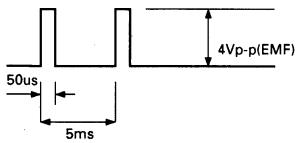
| No. | Test Tape | Adjustment Point | Adjustment Method (Switch Position) |
|---|---|---|---|
| 1 | NCT-150 (400Hz, 200nwb/m) | VR301(Lch), VR302(Rch) | mV Meter : - 8.24dBm ±1dB (DOLBY NR Switch : OFF) |

## AM NOISE CANCELER ADJUSTMENT

Connection:




Setting of the pulse generator. (setting of superimposed pulse)



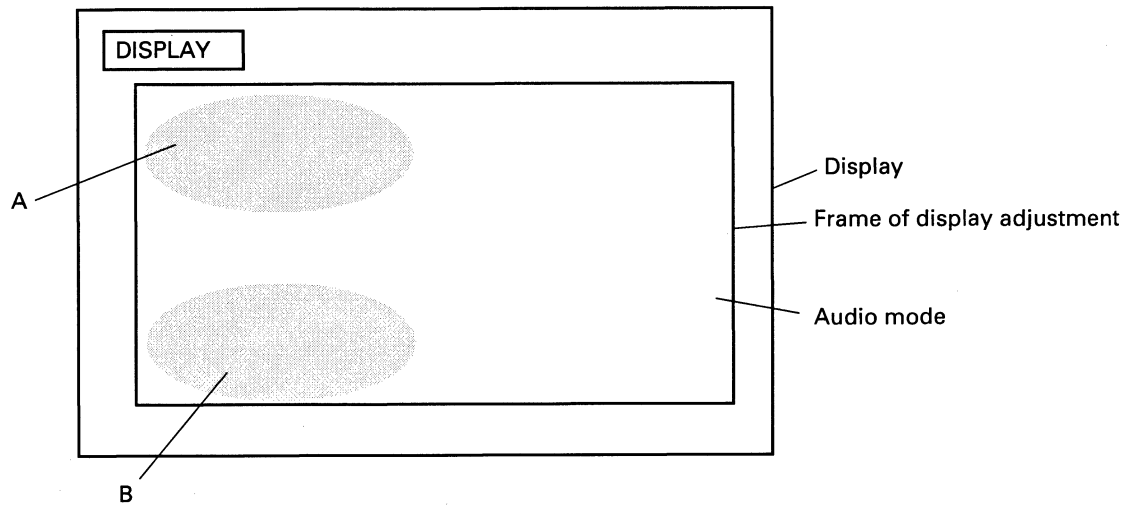

Pulse width :50µsec
Pulse intervals :5msec
Pulse voltage :4Vp-p

Adjustment:

1. Setting of SSG
   Receiving frequency : 999 kHz
   Percentage modulation : 30%
   Modulation frequency : 400 Hz
   Antenna input : 74 dBµV (EMF)
2. Tune a RADIO to the "999kHz" with 1 condition.
3. .Mix signal with the above-mentioned pulse and SSG moduration OFF.
4. Variable resistance adjust noise level to a minimum.
   Adjustment point : VR561

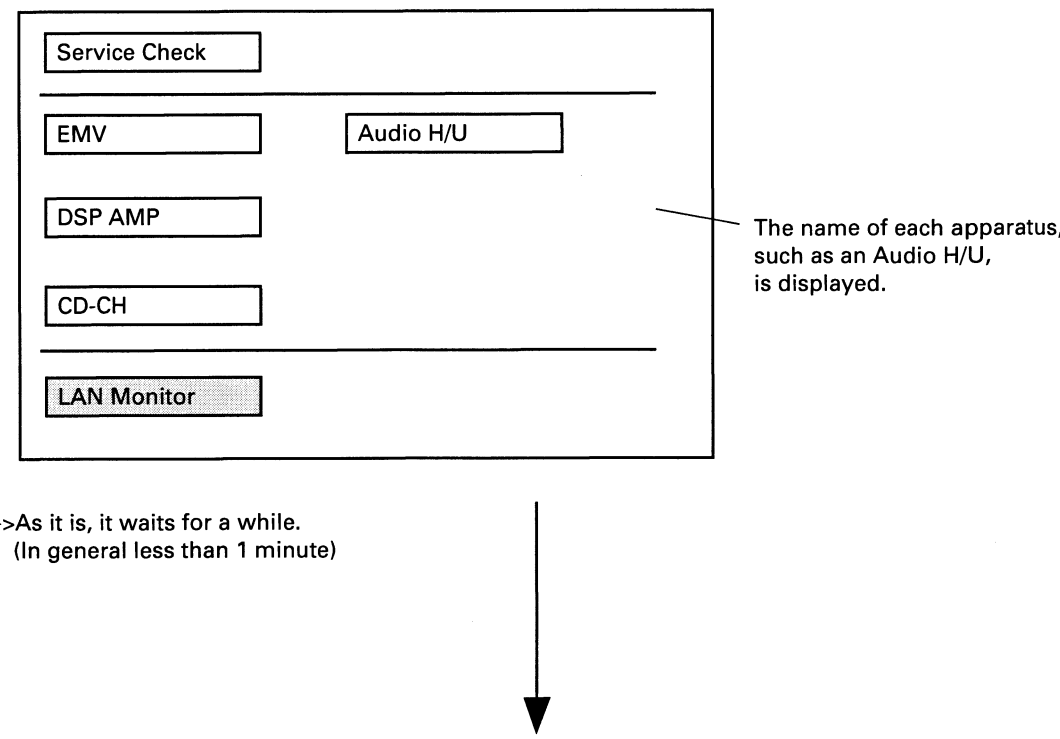
# 6.3 SELF-DIAGNOSIS FUNCTION

### 1.To Service Check

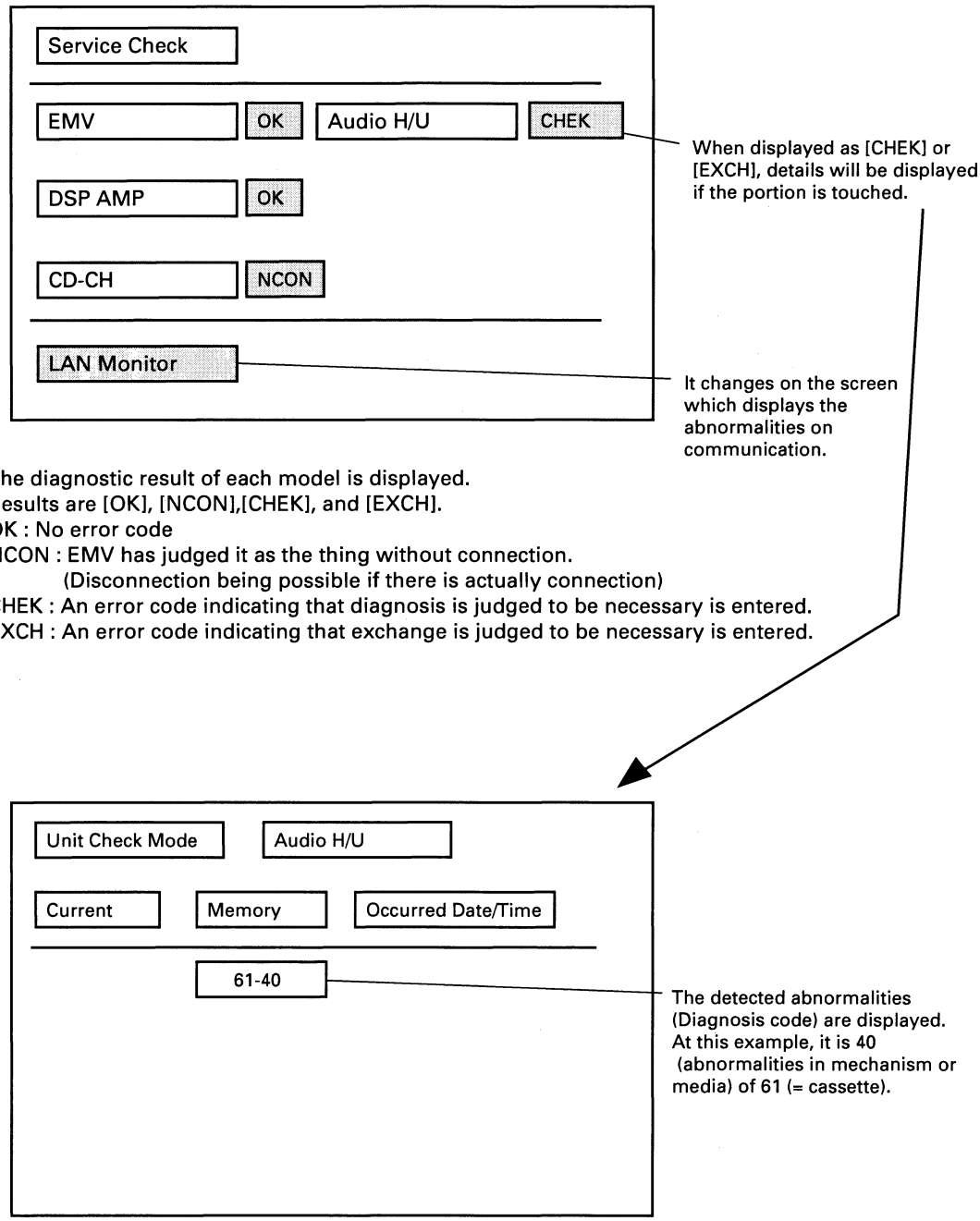



1. Press [AUDIO] key of EMV .
2. Press [DISPLAY] key of EMV .
3. The position of A and B is order of pushed 6 times in A,B,A,B,A and B.
   ->Service Check screen is displayed.

### 2.Service Check




->As it is, it waits for a while.
(In general less than 1 minute)




The diagnostic result of each model is displayed.
Results are [OK], [NCON],[CHEK], and [EXCH].
OK : No error code
NCON : EMV has judged it as the thing without connection.
(Disconnection being possible if there is actually connection)
CHEK : An error code indicating that diagnosis is judged to be necessary is entered.
EXCH : An error code indicating that exchange is judged to be necessary is entered.




### 3.How to exit from the diagnostic test mode

ACC-OFF

## Diagnosis code table

| Logical address name | Logical address | Diagnosis code | Diagnosis details |
|---|---|---|---|
| Communi-cation control | 01H | 00 | No diagnosis |
| | | 01 | Abnormal reset |
| | | 10 | Abnormal +B |
| | | 11 | Abnormal ACC |
| | | 12 | Abnormal MUTE |
| | | 13 | Fuse broken |
| | | 20 | Microcomputer - abnormal |
| | | 21 | ROM - abnormal |
| | | 22 | RAM - abnormal |
| | | 23 | Bus - abnormal |
| | | 24 | F-ROM - abnormal |
| | | 25 | V-RAM - abnormal |
| | | 26 | Gate allay abnormal |
| | | 27 | Paint controller abnormal |
| | | 28 | Backup memory abnormal |
| | | 29 | Voice output controller abnormal |
| | | 2A | Internal power supply abnormal |
| | | 30 | Sync signal abnormal (input) |
| | | 31 | Sync signal abnormal (output) |
| | | D0 | ECU not connected |
| | | D1 | Transmission abnormal |
| | | D2 | Connecting confirmation: abnormal |
| | | D4 | Connecting confirmation: no response |
| | | D5 | Registered device data missing (History of registered devices) |
| | | D6 | Master unavailable |
| | | D7 | Connecting confirmation: abnormal |
| | | D8 | Connecting confirmation: no response |
| | | D9 | Last mode abnormal |
| | | DA | Command/order: no response |
| | | DB | Mode status abnormal |
| | | DC | Transmission fault |
| | | DD | Master reset |
| | | DE | Slave reset |
| | | DF | Master abnormal |
| | | E0 | Registration completion acknowledgement error |
| | | E1 | Voice processor ON abnormal |
| | | E2 | ON/OFF command or parameter abnormal |
| | | E3 | Registration command transmission |
| | | E4 | Multiple frames intermit. |
| | | FF | Diagnosis - no response |

| Logical address name | Logical address | Diagnosis code | Diagnosis details |
|---|---|---|---|
| Radio | 60H | 10 | AM tuner PLL unlocked |
| | | 11 | FM tuner PLL unlocked |
| | | 40 | No antenna connected |
| | | 41 | Antenna power supply abnormal |
| | | 42 | Tuner power supply abnormal |
| | | 43 | AM tuner abnormal |
| | | 44 | FM tuner abnormal |
| | | 45 | SW tuner abnormal |
| TV tuner | 40H | 10 | TV tuner PLL unlocked |
| | | 11 | FRONTEND abnormal |
| | | 40 | TV divergence shifting error |
| | | 41 | TV – no reception |
| | | 42 | VNR screen error |
| | | 43 | No antenna connected |
| | | 44 | Antenna power supply abnormal |
| | | 45 | SEL +B current – small |
| | | 46 | SEL +B current – large |
| Cassette tape | 61H | 10 | Belt broken |
| | | 40 | Mechanical failure or cassette broken |
| | | 41 | EJECT failure |
| | | 42 | TAPE jamming |
| | | 43 | Dirty head |
| | | 44 | Mech power supply abnormal |
| CD<br>CD-P<br>CD-CH | 43H<br>62H<br>63H | 10 | CD Mech abnormal |
| | | 11 | CD loading/unloading abnormal |
| | | 12 | CD lead-in abnormal |
| | | 40 | No disc loaded |
| | | 41 | Incorrect disc |
| | | 42 | Disc unreadable |
| | | 43 | CD-ROM abnormal |
| | | 44 | CD abnormal |
| | | 45 | EJECT abnormal |
| | | 46 | Scratches or non-recorded side |
| | | 47 | CD high temperature detected |
| | | 48 | Excessive current detected |
| | | 50 | Tray IN/OUT abnormal |
| | | 51 | Elevator abnormal |
| | | 52 | Clamp abnormal |
| MD<br>MD-CH | 64H<br>65H | 10 | MD mech abnormal |
| | | 11 | MD IN/OUT abnormal |
| | | 12 | MD lead-in abnormal |
| | | 40 | No disc loaded |
| | | 41 | Incorrect disc |
| | | 42 | Disc unreadable |
| | | 43 | MD-ROM abnormal |
| | | 44 | MD abnormal |
| | | 45 | EJECT error |
| | | 46 | Scratches or non-recorded side |
| | | 47 | MD high temperature detected |
| | | 48 | Excessive current detected |
| | | 50 | Tray IN/OUT abnormal |
| | | 51 | Elevator abnormal |
| | | 52 | Clamp abnormal |

| Logical address name | Logical address | Diagnosis code | Diagnosis details |
|---|---|---|---|
| Navigation /GPS | 58H | 10 | Gyroscope abnormal |
| | 80H | 11 | GPS receiver abnormal |
| | | 12 | RTC abnormal |
| | | 13 | SS section abnormal |
| | | 14 | No Time updating |
| | | 15 | TCXO abnormal |
| | | 16 | PLL lock abnormal |
| | | 40 | GPS antenna abnormal |
| | | 41 | GPS antenna power supply abnormal |
| | | 42 | Map disc reading abnormal |
| | | 43 | SPD signal abnormal |
| | | 44 | Player abnormal |
| | | 45 | High temperature abnormal |
| FM multiplex (VICS), radio wave beacon, optical beacon, FM multiplex (data), and FM multiplex tuner | 5AH<br>84H<br>5BH<br>83H<br>82H<br>9AH | 41 | Antenna power supply abnormal |
| | | 45 | Radio wave beacon - no antenna connected |
| | | 46 | Optical beacon - no antenna connected |
| | | 47 | No FM antenna connected |
| | | 4A | FM receiver abnormal |
| | | 4B | Radio wave beacon abnormal |
| | | 4C | Optical beacon abnormal |
| Voice control | 85H | 40 | Voice-control activation SW abnormal |
| | | 41 | Voice-control Microphone abnormal |
| Extended communi-cation | 02H | 40 | Multi-CD-CH (optical cable) abnormal |
| | | 41 | Multi-CD-CH (optical cable) not connected |
| | | 42 | Multi-CD-CH (CarNet) abnormal |
| | | 43 | Multi-CD-CH (CarNet) not connected |
| | | 50 | HIT64 communication not connected |
| | | 51 | HIT64 communication abnormal |
| | | 52 | HIT64 BRQ disconnection |
| | | 53 | HIT64 BRQ short-circuit |
| | | 54 | HIT64 disconnection |
| | | 55 | CarNet communication not connected |
| | | 56 | CarNet communication abnormal |
| | | 57 | CarNet periodical communication abnormal |
| Information display/front monitors | 32H<br>34H | 10 | Video circuit abnormal |
| | | 11 | Back light abnormal (with no current) |
| | | 12 | Back light abnormal (with excessive current) |
| | | 13 | Panel open/close mechanical operation abnormal |
| | | 40 | Front seat monitor abnormal |
| | | 41 | Heater abnormal |
| SW, Audio SW, SW shifting, Command SW | 21H<br>23H<br>24H<br>25H | 10 | Panel SW abnormal |
| | | 11 | Touch SW failure |
| | | | |
| | | | |
| XM tuner | C0H | 11 | PLL Unlock |
| | | 12 | CODEC Communication Error |
| | | 13 | SSDEC Communication Error |
| | | 14 | SSDEC No Response Error |
| | | 15 | NVM Error |
| | | 16 | CAP Error |
| | | 40 | ANTENNA No Contact |
| | | 41 | ANTENNA Short |

## Diagnosis code table

| Logical address name | Logical address | Diagnosis code | Diagnosis details |
|---|---|---|---|
| XM | C0H | 11 | PLL unlocked |
| | | 12 | CDEC communication error |
| | | 13 | SSDEC communication error |
| | | 14 | SSDEC no response |
| | | 15 | NVM error |
| | | 16 | CAP error |
| | | 40 | No antenna connected |
| | | 41 | Antenna short-circuited |
| DVD-CH | 45H | 42 | Disc unreadable |
| | | 44 | DVD abnormal |
| | | 45 | EJECT abnormal |
| | | 46 | Scratches or non-recorded side |
| | | 47 | DVD high temperature detected |
| | | 48 | Excessive current detected |
| | | 50 | Tray IN/OUT abnormal |
| | | 51 | Elevator abnormal |

# 7. GENERAL INFORMATION

## 7.1 DIAGNOSIS

### 7.1.1 DISASSEMBLY

● **Removing the Upper Case (not shown)**

1. Remove the Case.

---

● **Removing the Cassette Mechanism Module (Fig.1)**

1 Remove the four screws and then remove the Cassette Mechanism Module.

● **Removing the Grille Assy (Fig.1)**

2 Remove the two screws and then remove the Grille Assy.

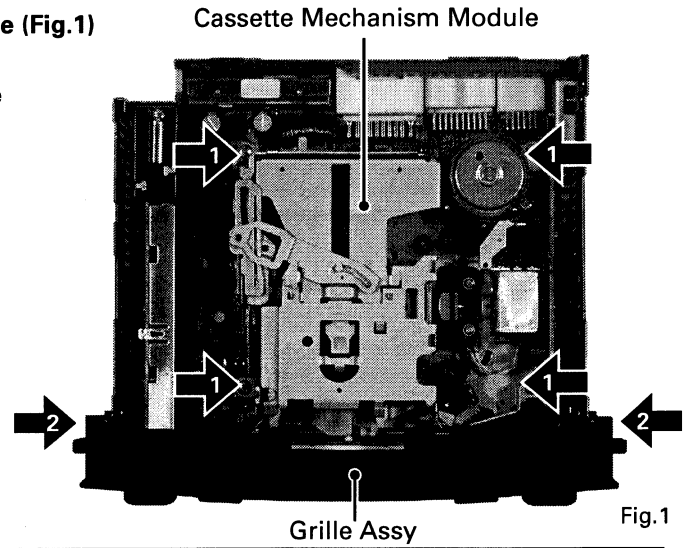



Fig.1

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● **Removing the Front Frame (Fig.2)**

1 Remove the three screws and then remove the Front Frame.

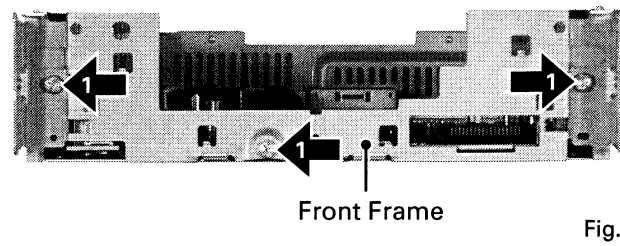


Fig.2

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● **Removing the Main Unit (Fig.3)**

1 Straighten the tabs at two locations indicated.

2 Remove the two screws.

3 Remove the two screws and then remove the Main Unit.

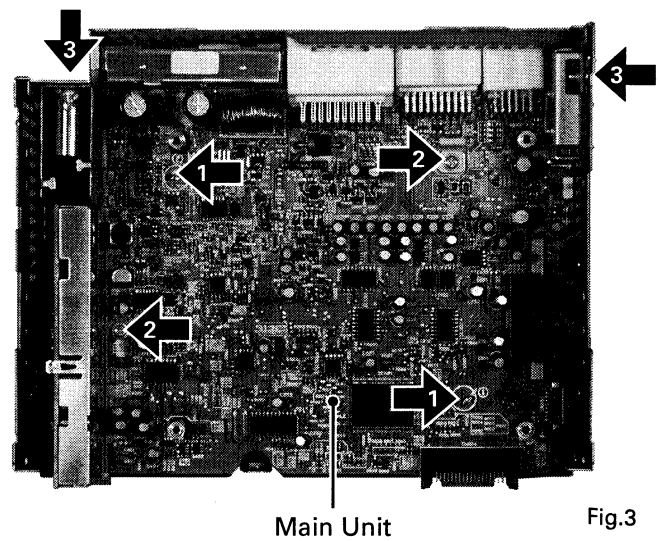


Fig.3

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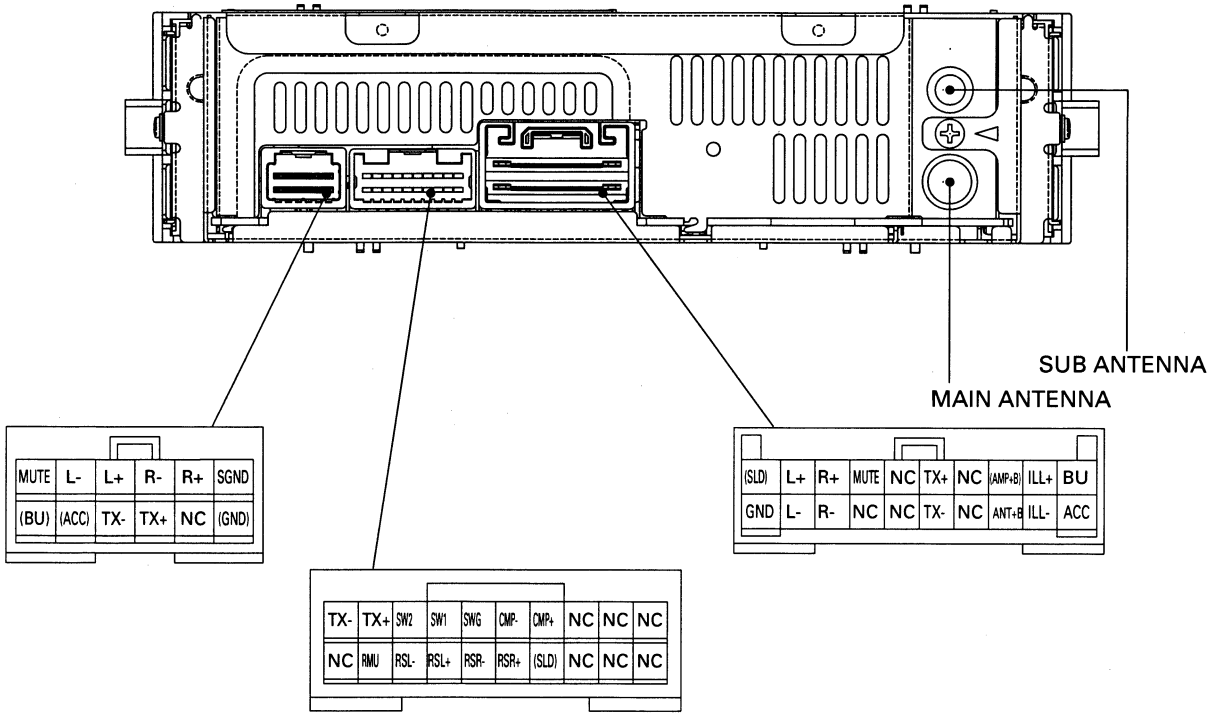
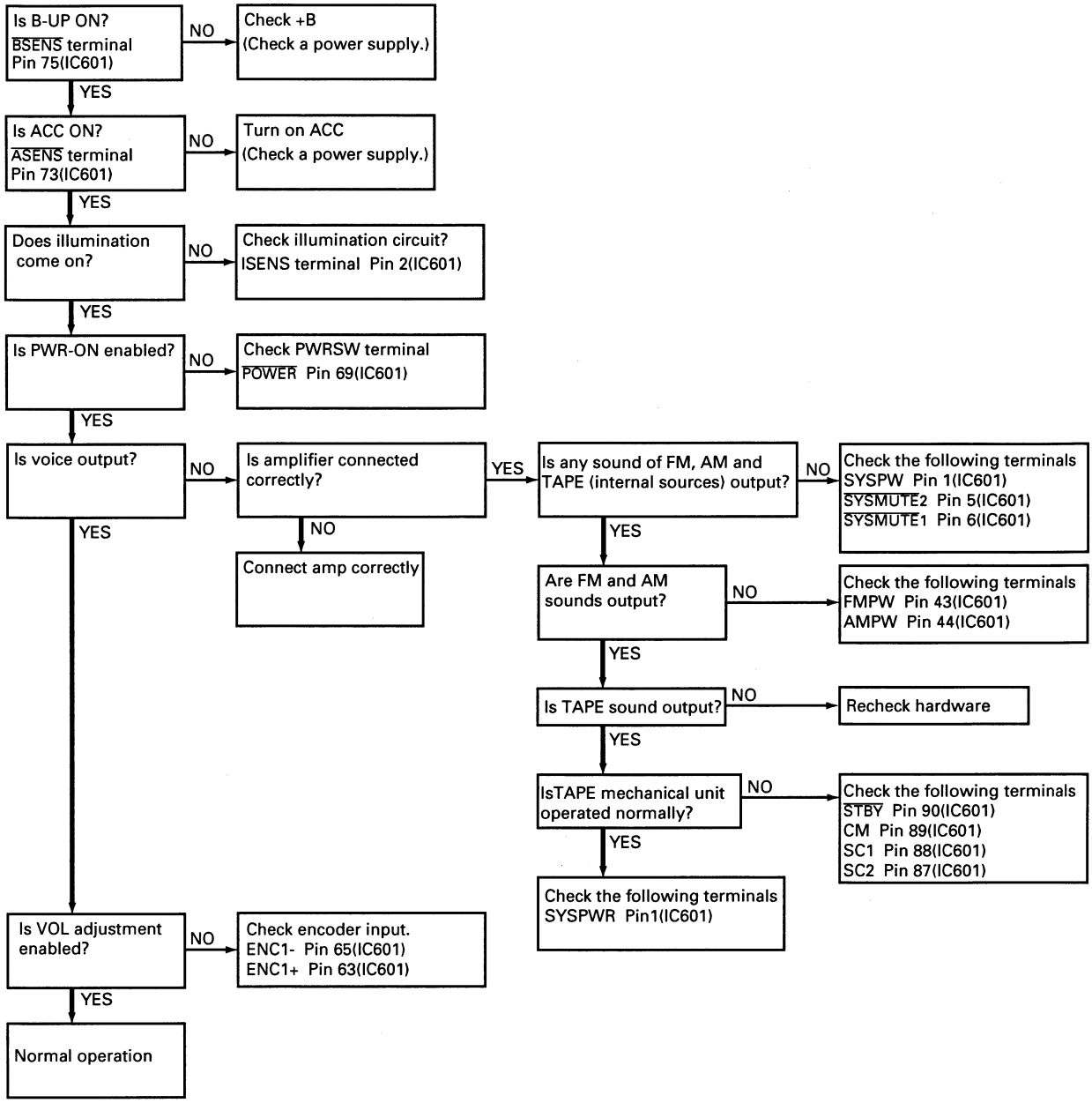
## 7.1.2 CONNECTOR FUNCTION DESCRIPTION



## 7.1.3 TROUBLE-SHOOTING



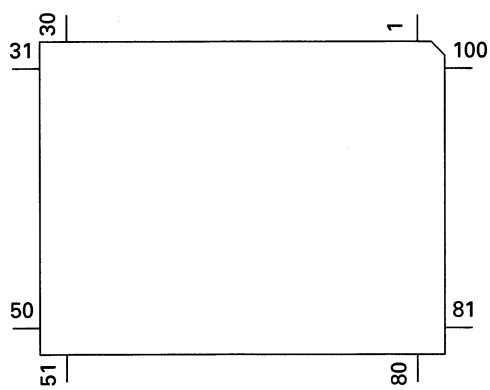
## 7.2 IC

● **Pin Functions(PD5945A)**

| Pin No. | Pin Name | I/O | Function and Operation |
|---|---|---|---|
| 1 | SYSPWR | O | Power supply control output |
| 2 | ISENS | I | Illumination sense input |
| 3 | KISYU | I | Model input |
| 4 | LAMP | O | Lamp power supply control(D/A) output |
| 5 | $\overline{\text{SYSMUTE2}}$ | O | System mute output for RSE |
| 6 | $\overline{\text{SYSMUTE}}$ | O | System mute output |
| 7 | RSEMUTE | O | RSE mute output |
| 8 | BYTE | I | Vss(Single chip) input |
| 9 | CNVSS | I | CNVSS input |
| 10 | LANMUTE | O | AVC-LAN mute output |
| 11 | SWVDD | O | SWVDD output |
| 12 | $\overline{\text{RESET}}$ | I | Reset input |
| 13 | XOUT | O | Main clock output |
| 14 | VSS | I | GND input |
| 15 | XIN | I | Main clock input |
| 16 | VCC | I | Power supply(2.7-5.5V) input |
| 17 | $\overline{\text{NMI}}$ | I | VDD input |
| 18 | $\overline{\text{RCK}}$ | I | RDS data clock input |
| 19 | $\overline{\text{LDET}}$ | I | PLL lock signal input |
| 20 | NC | O | Not used |
| 21 | RX2 | I | (BUS) |
| 22 | IPPW | O | BUS power supply output |
| 23 | SEL2a | O | Selector switch a output for RSE |
| 24 | NC | O | Not used |
| 25 | SEL2b | O | Selector switch b output for RSE |
| 26 | SHIMUKE | I | Model input(L, R) |
| 27 | SEL1a | O | Selector switch a output for AMP |
| 28 | SEL1b | O | Selector switch b output for AMP |
| 29 | RX1 | I | (BUS) |
| 30 | TX | O | (BUS) |
| 31 | PDO | O | PLL data output |
| 32 | PDI | I | PLL data input |
| 33 | $\overline{\text{PCK}}$ | O | PLL data clock output |
| 34 | NC | O | Not used |
| 35 | SPDO | O | Sub tuner data output |
| 36 | SPDI | I | Sub tuner data input |
| 37 | $\overline{\text{SPCK}}$ | O | Sub tuner data clock output |
| 38 | SCE | O | Sub tuner chip enable output |
| 39 | SCPON | O | Sub tuner power supply control output |
| 40 | SSD | I | Sub tuner station ON signal input |
| 41, 42 | NC | O | Not used |
| 43 | FMPW | O | FM power output |
| 44 | AMPW | O | AM power output |
| 45 | $\overline{\text{RDSMUTE}}$ | O | RDS mute output |
| 46 | $\overline{\text{DRST}}$ | O | RDS decoder IC reset output |
| 47 | $\overline{\text{CURRQ}}$ | O | Current request output |
| 48 | RDS57K | I | RDS 57kHz ON/OFF input |
| 49 | RDT | I | RDS data input |
| 50 | $\overline{\text{RDSLK}}$ | I | RDS station ON signal input |
| 51 | LOCL | O | Local L output |
| 52, 53 | PCE1, 2 | O | PLL chip enable 1, 2 output |
| 54 | SDBW | I | SD bandwidth ON signal input |
| 55 | NL2 | I | NL2 ON signal input |
| 56 | FMSD | I | FM ON signal input |
| 57 | $\overline{\text{ST}}$ | I | Stereo input |

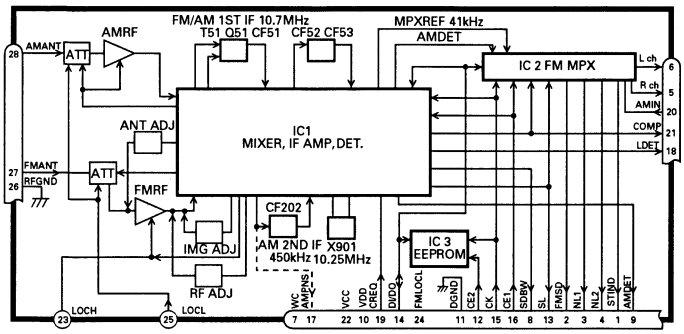
| Pin No. | Pin Name | I/O | Function and Operation |
|---|---|---|---|
| 58 | ROMDT | O | ROM correction data output |
| 59 | ROMCLK | O | ROM correction clock output |
| 60 | ROMCS | O | ROM correction chip select output |
| 61 | TEST | I | Test mode input |
| 62 | VCC | I | Power supply(2.7-5.5V) input |
| 63 | ENC1+ | I | VOL encoder input + |
| 64 | VSS | I | GND input |
| 65 | ENC1- | I | VOL encoder input - |
| 66-68 | KST0-2 | O | Key strobe output 0-2 |
| 69 | $\overline{\text{POWER}}$ | I | POWER key input |
| 70-72 | KDT0-2 | I | Key data input 0-2 |
| 73 | $\overline{\text{ASENS}}$ | I | ACC sense input |
| 74 | $\overline{\text{CSEJ}}$ | I | Tape eject sense input |
| 75 | $\overline{\text{BSENS}}$ | I | Back up sense input |
| 76 | KDT3 | I | Key data input 3 |
| 77 | ENC2+ | I | AUD encoder input + |
| 78 | ENC2- | I | AUD encoder input - |
| 79 | MS | I | Music sense input |
| 80 | $\overline{\text{F/R}}$ | O | Head forward/reverse select output |
| 81 | PLAY | O | MS gain select output |
| 82 | $\overline{\text{MTL}}$ | I | METAL input |
| 83 | NR | O | Dolby B NR ON/OFF output |
| 84 | CSLOAD | I | Tape loading detect input |
| 85 | POS | I | Position sense input |
| 86 | ES | I | Tape end detect input |
| 87, 88 | SC2, 1 | O | Sub motor control output 2, 1 |
| 89 | CM | O | Capstan control output |
| 90 | $\overline{\text{STBY}}$ | O | Tape stand-by output |
| 91 | NL1 | I | Noise level input |
| 92 | SSL | I | Sub tuner signal level input |
| 93 | MSL | I | Main tuner signal level input |
| 94 | ILL- | I | Illumination - input |
| 95 | STSW2 | I | Stearing SW 2 input |
| 96 | AVSS | I | A/D converter GND input |
| 97 | STSW1 | I | Stearing SW 1 input |
| 98 | VREF | I | A/D converter reference voltage input |
| 99 | AVCC | I | A/D converter power supply input |
| 100 | ANTB | O | Antenna power supply control output |

* PD5945A




IC's marked by * are MOS type.
Be careful in handling them because they are very liable to be damaged by electrostatic induction.

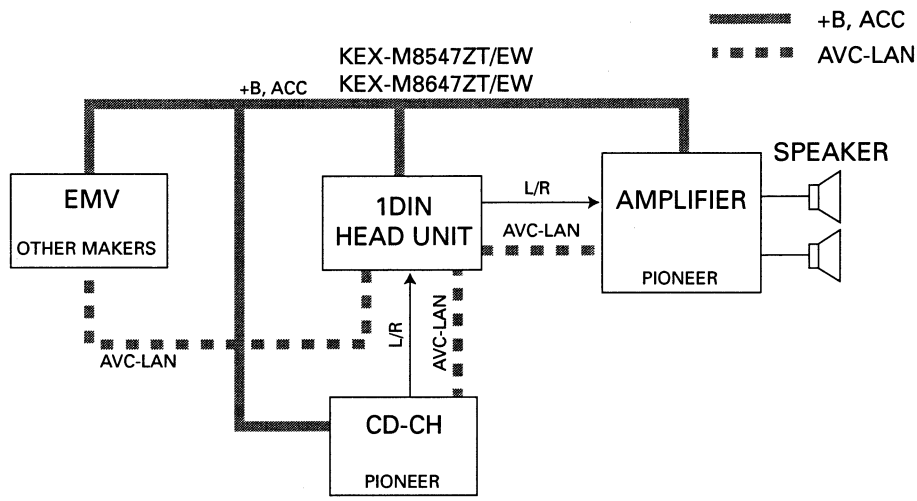
## ● FM/AM Tuner Unit



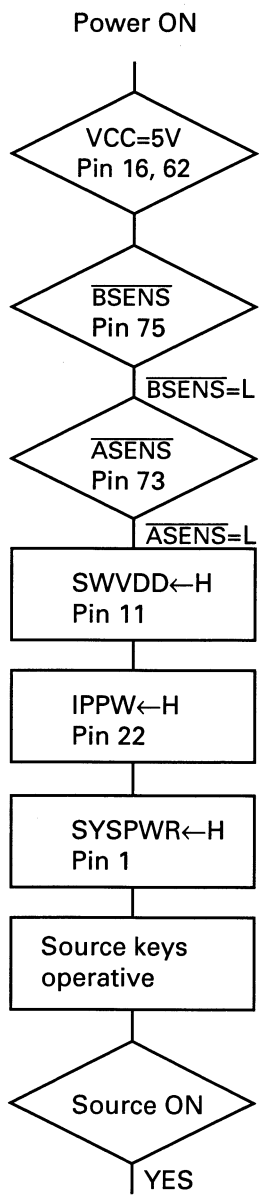

| No. | Symbol | I/O | Explain | |
|---|---|---|---|---|
| 1 | STIND | O | stereo indicator | "Low" when the FM stereo signals are received. To be pulled up to the "VDD" at 47kΩ. |
| 2 | FMSD | O | FM station detector | "High" when signals are received. To be pulled up to the "VDD" at 47kΩ Meanwhile, 10kΩ should be used when taking diver FIX trigger from here and "High: 0.9VDD or more" and "Low: 250mV or less". (Should satisfy the diver IC specifications) |
| 3 | NL1 | O | noise level-1 | "High" when noise is received. Output for the RDS. GND at 47kΩ//1,800pF. |
| 4 | NL2 | O | noise level-2 | "High" when noise is received. Output for the RDS. GND at 36kΩ//330pF. |
| 5 | Rch | O | R channel output | FM stereo "R-ch" signal output or AM audio output. Add the specified de-emphasis constant. |
| 6 | Lch | O | L channel output | FM stereo "L-ch" signal output or AM audio output. Add the specified de-emphasis constant. |
| 7 | WC | | write control | EEPROM write control. Writing permissible at "Low". Normally open. |
| 8 | SDBW | O | SD bandwidth | SD bandwidth signal output. For detection of detuning data for the RDS. |
| 9 | AMDET | O | AM detector output | AM detector output. r out < 100Ω |
| 10 | VDD | | power supply | Power supply pin for the digital section. DC 5V +/- 0.25V. Be careful about overlapping noise in the logic section. |
| 11 | DGND | | digital ground | Grounding for the digital section. |
| 12 | CE2 | I | chip enable-2 | EEPROM chip enable. Active a "Low" To be pulled up to the "VDD" at 47kΩ |
| 13 | SL | I/O | signal level | Received FM/AM signal level (strength) output. Connect the specified load resistor and capacitor (10k Ω+ 39k Ω//4,700pF) |
| 14 | DI/DO | I/O | data input/ data output | Data input/Data output To be pulled up to the "VDD" at 47kΩ |
| 15 | CK | I | clock | Clock input To be pulled up to the "VDD" at 47kΩ |
| 16 | CE1 | I | chip enable-1 | AF·RF chip enable. Active at "High"To be grounded at 47kΩ |
| 17 | AMPNS | O | AM PNS IF signal | IF signal output for AM PNS circuit. |
| 18 | LDET | O | lock detector | Active at "Low". To be pulled up to the "VDD" at 47kΩ |
| 19 | CREQ | I | current request | Active at "Low". To be grounded at 47kΩ |
| 20 | AMINI | | AM audio input | The frequency response and the level are set by connecting an external CR network with terminal AMIN as terminal AMDET. r in = 50kΩ |
| 21 | COMP | O | composite signal | FM composite signal output. r out < 100Ω |
| 22 | VCC | | power supply | Analog section power supply pin.DC 8.4V +/- 0.3V |
| 23 | LOCH | I | local high | FM local high pin. When seeking local high, apply 5V together with "LOCL". |
| 24 | FMLOCL | I | FM local low | FM local low pin. When seeking local low, apply 5V to the base of the NPN transistor with which the specified resistor is being connected to the emitter. Keep it open in case of ordinary marketed models. |
| 25 | LOCL | I | local low | FM/AM local low pin. When seeking local low, apply 5V to the base of the NPN transistor.Since this pin is exclusive for AM when the FMLOCL is in use, do not drive it under FM. |
| 26 | RFGND | | RF ground | Grounding for the antenna section. |
| 27 | FMANT | I | FM antenna input | FM antenna input. 75Ω. Surge absorber (DSP-201M-S00B) is necessary. |
| 28 | AMANT | I | AM antenna input | AM antenna input. High impedance. Connect to the antenna through an L (LAU type) of 4.7μH.To cope with the power transmission line hums, insert a series circuit consisting of an L (a coil of about 100mH) + R (a resistor of 470 Ω to 2.2kΩ) between the GND. |

# 7.3 EXPLANATION

## 7.3.1 SYSTEM BLOCK DIAGRAM



## 7.3.2 OPERATIONAL FLOW CHART




Completes power-on operation.
(After that, proceed to each source operation)

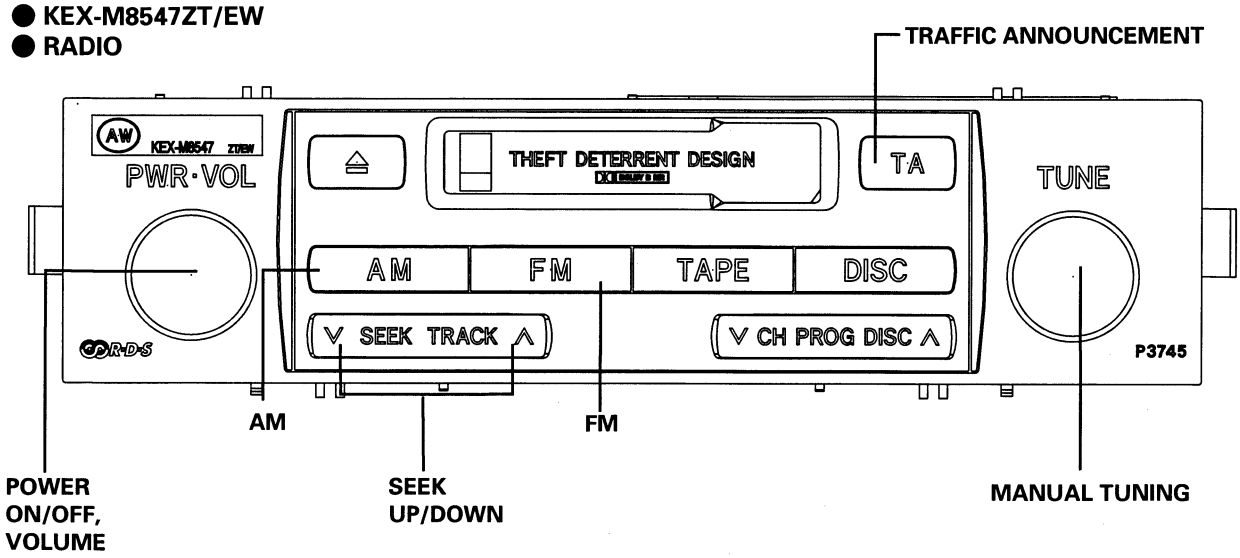
## 7.4 CLEANING

Before shipping out the product, be sure to clean the following portions by using the prescribed cleaning tools:

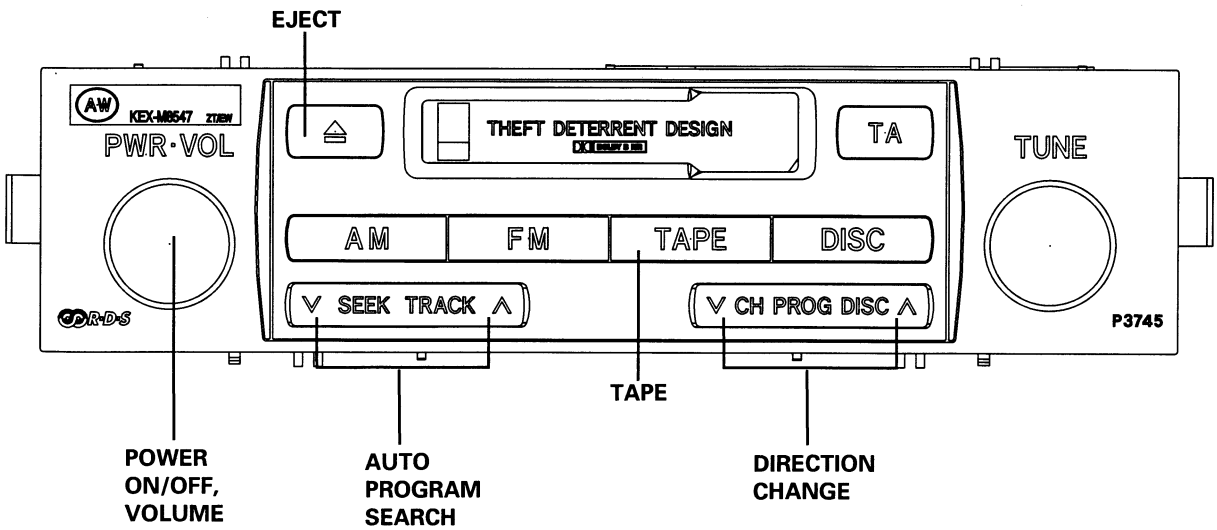
| Portions to be cleaned | Cleaning tools |
|---|---|
| Cassette heads<br>Pinch rollers<br>Capstans | Cleaning paper : GED-008 |

# 8. OPERATIONS

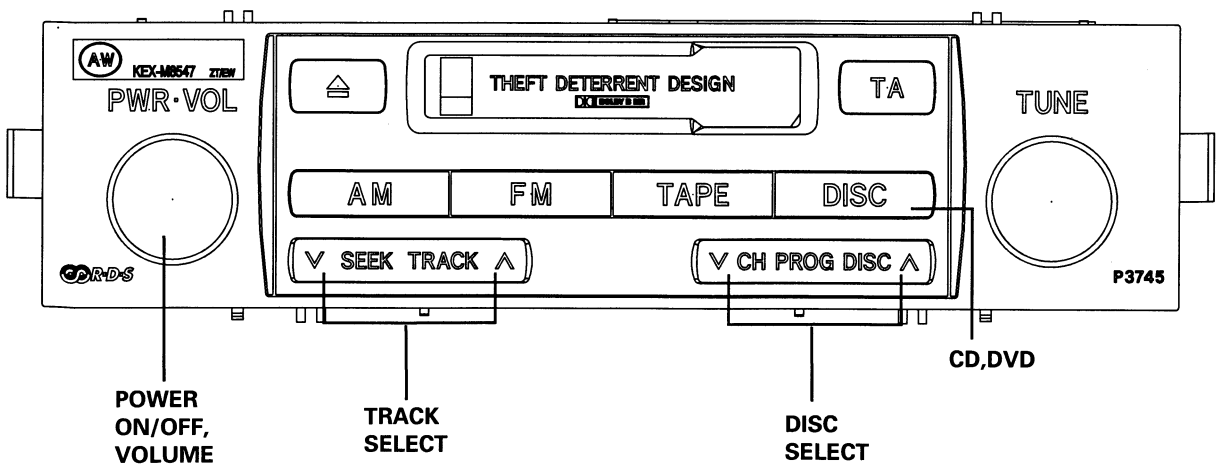
● KEX-M8547ZT/EW
● RADIO



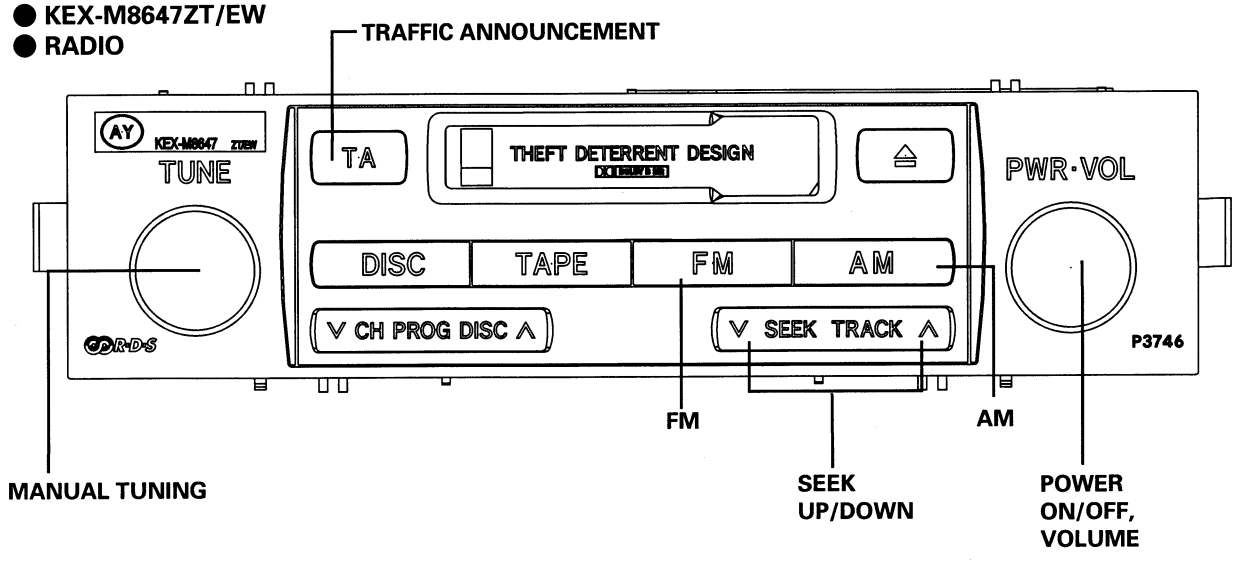

● TAPE



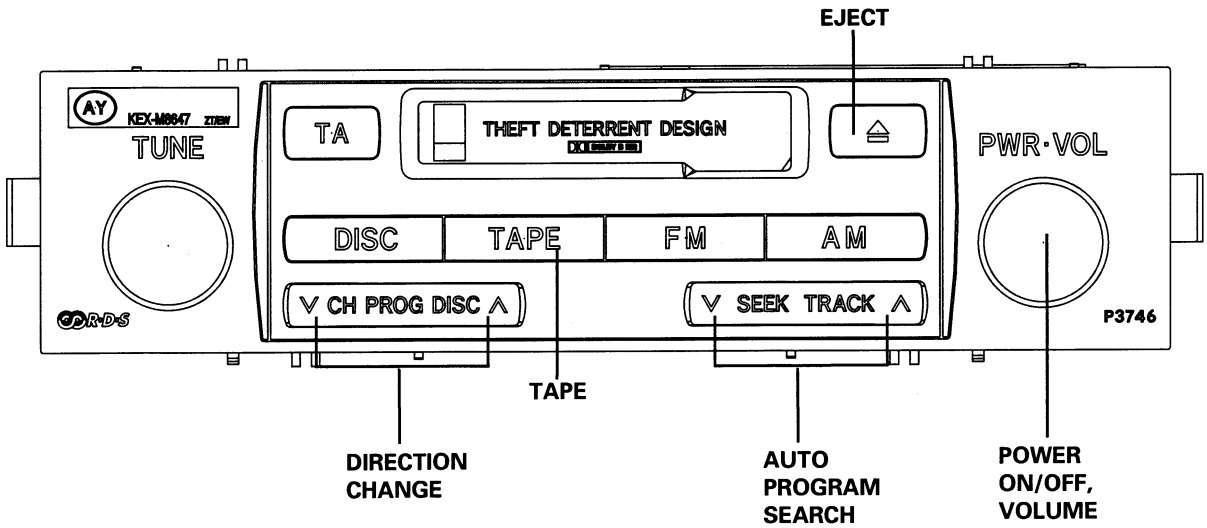

● CD, DVD



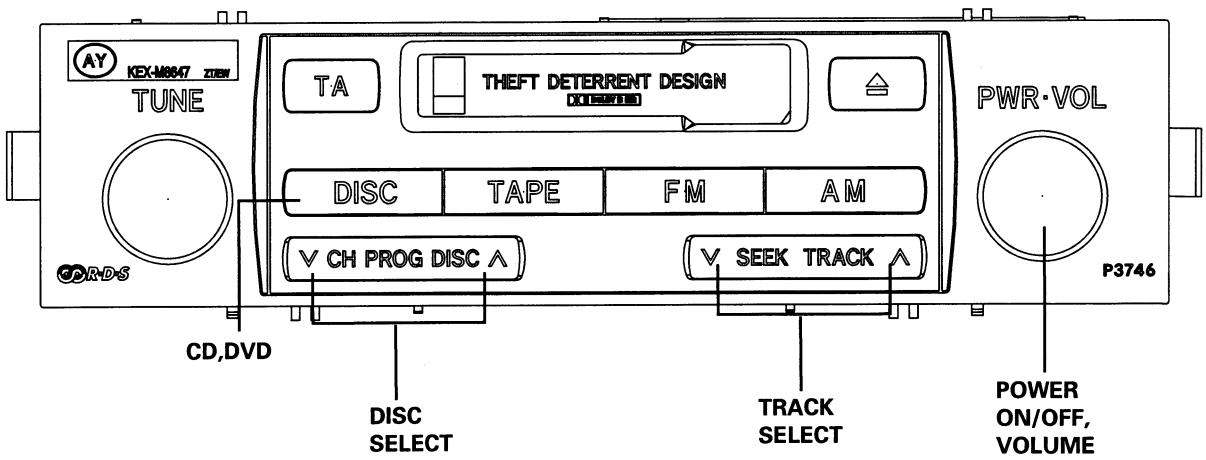
● KEX-M8647ZT/EW
● RADIO




● TAPE




● CD, DVD



## ● Jigs List

| Name | Jig No. | Remarks |
|---|---|---|
| Extension cord | GGD1169 | Adjustment |
| Extension cord | GGD1240 | Adjustment |
| Extension cord | GGD1304 | Adjustment |
| Extension cord | GGD1346 | Adjustment |
| Extension cord | GGD1121 | Cassette mechanism module adjustment |
| Test tape | NCT-150 | Cassette mechanism module adjustment |
| Cleaning paper | GED-008 | Cleaning cassette heads, pinch rollers and capstans |